

LIPPINCOTT'S SCHOOL PROJECT SERIES

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DEAN COLLEGE OF EDUCATION, UNIVERSITY OF IOWA

PROJECTS IN THE PRIMARY GRADES

A PLAN OF WORK FOR THE PRIMARY
GRADES AND THE KINDERGARTEN

BY

ALICE M. KRACKOWIZER



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TO THE MEMORY OF MY FATHER, WHOSE
ILLUMINING PRESENCE FILLED TO THE
BRIM MY CUP OF CHILD HAPPINESS,
THIS LITTLE BOOK IS DEDICATED

PREFACE

It is fitting that the influences which have moulded this book should be recognized. The prophetic inspiration of Col. F. W. Parker kindled the spark of youthful enthusiasm which, in this instance, has kept the fire burning for many years. As Colonel Parker himself would have modified and adapted his expression of himself to the changing situation, so the work has gone on. The scientific training of Professor Rollin D. Salisbury, and the stimulation and encouragement of Dr. F. G. Bonser, Dr. F. McMurry, and Dr. W. H. Kilpatrick have done much to determine the later trend of the early vision. The realization of an ideal is still the goal; the ideal in its outward manifestation has changed somewhat. This is one of the incidentals of growth and progress. Gratefully remembering the influences of these men, the writer also wishes

to acknowledge the courtesy and helpful suggestions of Miss Moore, Miss Hill and Miss Garrison of Teachers' College, and of Miss F. W. Dunn, of Virginia.

ALICE M. KRACKOWIZER

YONKERS, N. Y., 1918

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PROJECTS IN THE PRIMARY GRADES

INTRODUCTION

ONE of the most important and at the same time most difficult problems in the beginning period of formal education is that of using the objects and activities all about children as a means of continued but more rapid growth. This more rapid growth is most naturally promoted by taking the various aspects of everyday experience, one by one, and aiding the children to see, understand, and appreciate more of their meaning and significance. The experience of young children is a more or less confused mass of ideas and feelings about objects and activities. Nature and social life with all of their complex activities are all about them, but they have become conscious of few details. Their education is largely a problem of not-

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ing and appreciating for their worth increasingly numerous facts and relationships as these may be made to increase their range, variety, and richness of experience. Seeing and understanding things not yet observed, participating in activities previously unknown or disregarded, awakening to the stimulation of surroundings earlier making no appeal—these are the characteristics of the normally unfolding minds of children.

But, in addition to promoting this growth by the selection, stimulation and direction of the natural activities of children in their environment of nature and social life, education is confronted with the problem of developing appreciation of the need and value of the tools by which these experiences are most effectively extended and to master their uses. To master the mechanics of these tool subjects or processes—reading, writing, and number—the life experiences all about children are very often quite subordinated or even omitted from serious consideration. Those teachers attempting to make much of

the development of children by a natural, wholesome use of their interests and the life about them are frequently charged with neglecting their training in the mechanics of these tool subjects. There is thus developed an apparent opposition between the two aspects of child development.

Miss Krackowizer has endeavored to unify the two phases of the problem. She has brought together many typical illustrations of the nature and social experiences of children and shown the method of their usage as a means of developing an appreciation of need for reading, writing, and number, and also the method of their usage in most effectively teaching the elementary processes of these subjects as well. She has so organized the experiences that the simpler forms of usage of these mechanical processes are a natural outgrowth and part of them. The motives for carrying out the various projects so strongly lay hold upon the children that interest and effort become one in attacking and solving the problems

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necessary to the completion of the projects. The effort put forth by the children is therefore not artificially stimulated or imposed by the teacher, but is exercised spontaneously by the children in bringing about a realization of the activities in which they are so much interested. Any apparent opposition between interest and effort thus disappears, and likewise any apparent opposition between the content of these natural activities and the tools needed for carrying them out effectively. Reading, writing, and number may thus be appreciated for their real purpose and worth as means for engaging in interesting and valuable activities which could not be carried on without them. Such direct and specific attention to the details of these tool processes as is necessary for the mastery of their usage is thus naturally provided for—in other words, the drill aspects of the work are strongly motivated by the activities themselves.

The treatment of both nature experiences and social experiences is broadly inclusive

and should be immediately helpful to teachers in whatever environment they may find themselves—country, village or city. Illustrative units are developed in sufficient detail and are sufficiently varied in form to serve as a guide to method for teachers of almost any degree of training.

Teachers very generally appreciate the general character and need of this problem of unifying child experiences and social aims of education, and of unifying the vital interests and activities of children and the mechanical processes of the tool subjects required for making these interests and activities lead on to further interests and experiences. But many are unable to see how to bring about this unification. Miss Krackowizer has rendered a large service in contributing this comprehensive body of illustrative experience which she has found effective by years of careful and discriminating testing in widely differing environments. Many of the problems may be used by teachers with only slight modification to

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adapt them to their own conditions. But the value of the book will reach far beyond the problems presented in detail in its suggestiveness of kinds and sources of other problems, and in the general method of treatment of problems arising naturally in the environment and experiences of children. The study and use of the book should be a very substantial aid in vitalizing, enriching, and unifying the work of the kindergarten and primary grades.

FREDERICK G. BONSER

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THE PURPOSE

THIS book is the outgrowth of a varied experience in the field of elementary school work. It contains little that has not been worked out by the writer herself or by others whom she has had the good fortune to observe. It purposes to break down the artificial barrier between first grade and kindergarten; to do away with much of the formalism and mechanism of the early grades; to have the child continue in as normal a way as possible those life activities in which he is engaged outside of school; to do this in the manner which will best further his adjustment to new activities in which he takes part; to make the child increasingly intelligent, and much more active in his response to his environment.

The unified plan as proposed, while not separating the different subjects of study as usually listed, contains elements of all and forms the basis for a more mature under-

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standing later of the principles involved in a study of geography, nature study, history, civics, hygiene, literature, and the other subjects of the course of study. In trying to overcome the formalism of the usual program and the wasteful and mechanical separation of subjects, there is no desire to eliminate any of its integral parts; there is not even a desire to make 'incidental' such features as reading, arithmetic, and the other formal subjects. *Reading, for instance, is as much a part of the entire scheme as nature experience or other content matter.* The plea is merely for a unified life at school, where each activity shall take its legitimate place, with *changing emphasis* on the various elements, according to the greatest need at any given time. All the subjects of the curriculum are represented.

What and how much of this material shall be used in kindergarten, in first, second and third grades, and what shall be the sequence must be determined largely by local conditions. *There is more material than any*

one teacher can use in any one year. It is true that the child's path for some time crosses all phases of his environment many times in varying degree, with varying emphasis. The variation in his purposes secures repetition without monotony.

Owing to the limitations of the medium of the printed page, the material used in the book has had to be divided into chapters with specific names. This does not mean that there is a sequence in schoolroom practice which is to adopt the sequence followed by the chapters. The titles of the chapters merely indicate some of the most necessary elements to be introduced into the daily primary program. [Projects of all kinds, involving play, social experience, nature experience, constructive activities, are part of the child's daily life, long before he enters school; they should continue as parts of his daily life under normal condition while he is in school. New activities like reading, writing, number, should be admitted upon the same basis; namely, as the child does

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meet and need them in his life, even should he not go to school at all.

A cross section extending through all the chapters represents the best working basis for the study of the book. Social and nature experience, play, constructive activity, literature, reading, writing and the rest must form the ingredients of each daily, weekly, monthly program. It is the teacher's task so to select and adjust *conditions* as properly to balance the ingredients so they will mutually help one another. This means that conditions will confront the children in the most 'true-to-life fashion,' and will be met by them as a *life to be lived*, rather than as a task to be performed because arbitrarily imposed.] More will be said later on this working out of the children's purposes.

[It will help the reader to interpret the chapters and apply their principles in his daily schoolroom practice, if he will look for illustrations referring to 'purposeful activity' of the children, and to the working back and forth in helpful fashion of the vari-

ous elements of the school curriculum. Such cross references occur in: The caring for pets, which involves play and labor; the dramatization of literary gems; the representative play in connection with social and nature experience; the constructive activities carried on in response to social demands; the reading, writing, and number done as the result of living social lives. The list of these projects might be extended indefinitely.

Placing the daily work of the school on the basis which demands that the purposes of the children determine the method of procedure and the choice of material, provides ample opportunity for the formation of good 'daily living' habits. This is one of the chief aims of the modern school. The children in a social school learn by living with others to take part, to work together; to assume responsibility, to render mutual service, to subordinate selfish desires to the common good, and to value and dignify labor. Their increased interest in carrying out purposes of

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their own results in greater effort on their part and secures more adequate results. It thus simplifies learning and assures better retention of what has been learned. These views are supported by the laws of modern psychology and are therefore strongly recommended.] The principles upon which this unified plan of work are based have been restated whenever the school life has been approached from a new angle. This seems necessary because of their importance and in order that their application may be assured at all points.

[This taking account of children's purposes brings with it frequently a change of values in different elements of the curriculum at different times. In order to be just to all, a daily program is necessary. This program can and should be, however, far more flexible than the one commonly used. While the teacher will keep in mind the equitable distribution of time for each activity in the course of the term, she may vary her daily and weekly program considerably

in order to meet special situations. For example, one week or day she may need more time for excursions or for constructive work, or for gardening. She may balance this another week by throwing the emphasis upon the more formal aspect of the program, by recording through reading, writing, number, the results of the work of the week previous or by arranging for other conditions which will make these forms of expression necessary. The program here suggested permits of changes as indicated and yet provides for all essential elements.

An adjustable program, embodying certain important principles of self activity.

First period of morning:

Disposing of wraps. Exchange of greetings.

Looking after individual duties.

Exchange of news of the day.

Statement of the problem for the day:—activities involved; materials necessary; suggestion or organization; training of children to take a responsible part in these directions.

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Second period:

Group activities:

- Language, observation, dramatization.

- Reading, phonics.

- Writing, spelling.

- Arithmetic.

- Music, rhythm, games grouped about the central thought.

Last period of morning: Not longer than half an hour.

Individual activities towards definite purpose, either individual or collective.

First period of afternoon:

Continuation of group activities.

Second period:

Another period for individual or separate activities. Finishing work, alone or in groups; independent silent reading; watering plants; building with blocks, etc.

Last period:

Summary for the day.

Restatement of the chief problem; progress made.

Assignment for future use. What must we do next? How can we get ready for the next step?

Good-byes.

CHILDREN'S PURPOSEFUL ACTIVITIES

PROBLEMS AND PROJECTS

CHILDREN'S lives are full of activity. They are constantly carrying out projects and solving problems of their own. In the process of living they learn to think, because of the fact that in their activity they are most often carrying out a definite purpose; that in order to do so they must weigh and judge among ideas and material details, and select from among these the ones most pertinent to the fulfillment of their immediate end; that in working out their definite purpose, they meet difficulties which need to be overcome before the desired end can be obtained. (Read Dr. John Dewey's Reasoning in Early Childhood, Teachers' College Record, Jan., 1914.)

Since this is the method of procedure of a normal child or of any normal human being when under no constraint, the school should

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adopt it. 'Purposeful activity' on the part of the children then becomes the aim of the school. The teacher's part is to guide towards such 'purposeful activities' as will prove of greatest benefit to the children, choosing among those directly available for first-hand experience.

In attempting to discuss the relative values of these activities, we are frequently using the words 'problems' and 'projects' as common terms of understanding. Any 'purposeful activity' determined upon and carried to a successful conclusion becomes a project. There are various types of projects. One of these types involves mental processes alone, without manipulation of material and without the necessity of outward expression; this is the problem type. It goes without saying that while this type may exist by itself, it is not likely to do so in the child's world. On the other hand, all other types of projects include the problem type in so far as they are not merely unconscious responses. The process of carrying

CHILDREN'S PURPOSEFUL ACTIVITIES 17

out projects and problems includes thoughts, suggestions and activities rejected, as well as those finally selected as pertinent. If no steps are taken toward the attainment of a definite purpose, the mental problem may remain in the child's mind, but there is no solution of it and there is no project involved. This state of affairs is detrimental to the child and has existed too frequently in the process of formal education.

The problem is the situation which demands the exercise of choice. In this lies its value for children, who must be taught to establish the habit of thinking clearly, widely and to some definite purpose. Here also lies the responsibility of the teacher, who must provide conditions so that fruitful problems shall arise. Fruitful problems are such as will demand solution because of their appeal to children, and because of their opening up to them new and larger fields of action.

The problem may be very simple and may be solved by means of a single project of

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short duration. It may be more complex and demand a longer period of time as well as necessitate a more complex project. The project itself may contain new problems to be solved by minor projects. Thus arises a linking of mental processes and physical activities all subsidiary to the main problem, all subordinate and yet indispensable to the essential project, working toward the solution of the main problem. We may think in this connection of the relation of the twigs to the branches, the branches to the trunk of the tree; all contributing their quota to the life of the complete tree; the sap coursing through all being the connecting thought (which is the main problem), by its permeating and vitalizing quality, giving vigor and growth to the whole.]

The following illustration is borrowed from Miss Grace Brown, of Teachers' College, in her talk on Dressing Dolls—a project. She shows how little children will at first be content with wrapping the doll, putting on clothing regardless of arms and legs;



A. MAKING DRILLS FOR SEED
B. KEEP UP THE SURFACE MULCH

CHILDREN'S PURPOSEFUL ACTIVITIES 19

how the problem arises of making provision for their freedom and the next project becomes the carrying out of this idea; how the problem of clothing 'to be put on and taken off' in permanent form arises next and gives opportunity for guidance by the teacher in the project of pattern making, the process of fitting, transferring to cloth and constructing the desired object; how the problem of making *pretty* clothing leads from selection of color to the project of decoration; how finally the making of doll's clothing suggests the problem of making clothes for one's self as 'mother does it,' and of the realization of this problem in the project of making a dress for one's self from the pattern fitted by the teacher. This illustration serves not only to make clear the place of the problem and the project in the daily life of the children, but also to show the possibility of starting on a very simple basis and leading to more complex activities by following the children's own interests and development.

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In the solution of a problem the end may be immediate, as is the case when the problem is very simple; it is, however, likely to be more or less remote. *The ability to hold in mind and to work toward a more remote end* should be one goal achieved by children through the education given them. In the working out of a project the end always consists in the fulfilling of a definite purpose. The achieving of the purpose *may* cover a long period of time and involve accessory problems and minor projects as has been pointed out.

ILLUSTRATION OF THE FOREGOING FROM THE FIELD OF READING

Suppose the children have unconsciously absorbed the notion of the importance of reading in daily life by seeing their relatives read letters, the newspaper, magazines, cook books, advertisements, books, etc.; suppose reading material and picture books have formed part of their environment; suppose they have been read to or told stories

CHILDREN'S PURPOSEFUL ACTIVITIES 21

which they know are to be found in books; suppose on street cars, walks, or elsewhere the desire has come to them to decipher for themselves the large print on brilliantly colored background accompanied by pictures they do not understand. The *problem* comes to them in their own feeling, "I want to learn to read." "Learning to read," then, becomes the large *project* or definite purpose to be worked out in concrete terms. During the process, however, minor problems arise, *felt* rather than clearly thought out by the children. Among these are, "How can I get what I want without asking older people?" This problem shows a 'felt need,' and a proper time for the introduction of phonics. Another problem *felt* rather than thought out is: "How can I share what I like unless I can interpret the meaning of the page in such a way as to make people wish to listen to my reading?" This introduces the most vital motive for class reading, the *social* motive. That it is a *real* one to children is evidenced by the lit-

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the girl, who persistently followed her elders about with a book under her arm, begging to be permitted to read to them and rejoicing when given the privilege to do so.

These minor problems arising out of the pursuit of the main project demand lesser projects for their solution. So the ramification goes on as has been suggested in the simile of the tree with its twigs and branches and the sap coursing through all. To carry the picture somewhat farther in illustration of the point, to follow in the next paragraph concerning standards for the selection of problems and projects, it may be said, that the dead twigs and branches, through which the sap no longer courses, and the individual twigs at the foot of the trunk which take from the strength of the tree without contributing to its growth had better be chopped off so as to conserve and concentrate the life of the whole in its integral parts.

Problems and projects arise in connection with the daily experience of children. Not



A. MAKING OUR BED-ROOM FURNITURE
B. WEAVING OUR RUG; MAKING MAY BASKETS

CHILDREN'S PURPOSEFUL ACTIVITIES 23

all problems or projects need or should receive attention *at school*. The basis for determining which shall be utilized and which rejected includes the following questions:

1. Does the problem or project appeal to the majority of the group?

2. Is it of sufficient value to the individual to enable him to make by means of it a distinct contribution to himself or to the group?

3. Does it open up to the individual or the group, consciously or unconsciously, visions of new problems to be solved and projects to be worked out in consequence?

4. Does it help illumine some phase of child experience or activity worth preserving and fixing even temporarily?

5. Does it help lengthen gradually the pupil's 'interest span,' his power of sustained attention?

6. May a solution of the problem by means of a certain project, by contrast possibly, point the way better than a seemingly more profitable project may do at a particular

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time? To illustrate: If a child has his heart set on solving a problem by means of a certain project, might the experience gained in doing this and finding the result unsatisfactory more than offset a safe direction towards his immediate goal? (This, of course, opens up the questions of 'trial and error'; the validity and extent of the use of this method; the basis for measuring results and the weighing of values; the economy of time; the elimination of waste.)

A word as to the complexity of projects for young children. There are, of course, inherent in the experience of children many larger units which hold their attention for days and weeks intermittently or consecutively. Such are the making and using of the play house; the school-garden fair, depending for its success upon the spring gardening, the care in the summer and the fall harvesting; playing store; the various social functions growing out of the utilization of garden products and the observance of holidays; the camping, either as white camp-

CHILDREN'S PURPOSEFUL ACTIVITIES 25

ers or as Indians in the living of that gem for primary grades—Hiawatha; the life of primitive man as revealed in Miss Dopp's books; the farmer's activities carried through the year in a rural community, and other activities growing out of local conditions.

It is, however, not necessary or even desirable that all projects undertaken by small children shall be large ones. Their interests are varied, their interest 'spans' are short; many of their legitimate desires are very simple and of short duration; many of them are still enjoyed and valued as ends in themselves; some of them form a connected series in a larger unit held in mind only by the teacher. Some may cover merely a recitation or a day or two in point of time.

The problem or the project may precede in point of time. With little children frequently the project precedes the problem, because of the unconsciousness of their reaction and the immediacy of their purpose. Since this is true and little children solve a

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large number of their problems by means of projects involving manipulation of materials, a separate chapter has been devoted to constructive activities. Play is given first place because of its irrepressibility and because of its value in all child activity. It is implied throughout, though it need hardly be said, that a school which provides opportunity for purposeful activity does most to build up the *health* of the children. This question of the *health* of herself and her children should be one of the purposeful activities of the teacher.

PLAY AS PURPOSEFUL ACTIVITY

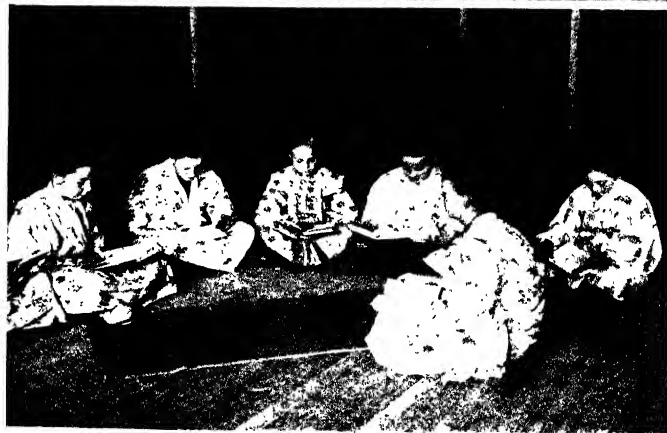
A LARGE amount of thought and time in any primary school program belongs legitimately to play. Play is the spontaneous expression of child life; it *is* child life. The teacher who does not weave play into her daily scheme, fails to grasp a central principle and to utilize one of the greatest assets in the education of the children under her guidance.

Much has been written on the educational value of play. Five aspects of the question are especially vital to the success of the plan of work here presented. They are: (1) The play spirit. (2) Representative play. (3) Dramatic play. (4) Play and games as determined by conditions of weather and other nature experiences. (5) Social and folk games and play.

1. The play spirit. This is an attitude of mind, an outlook upon life present in the child, necessary as basis for a sound phil-

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osophy in later years; as much of an asset to the grown person as to the child. It is the element in character which defies failure; which insists upon playing the game fairly and joyfully, but playing the game always; which meets difficulties, obstacles, drudgeries, with vigor and a determination to win, but to win always by fair means; which does not minimize or ignore existing evil, but which has faith in its ultimate overcoming by positive measures; which adds the touch of artistry to otherwise commonplace lives, and illuminates them with a ray of sunlight convincing to others by its glow, its penetration, and its effects. This play spirit does not exclude seriousness, concentration, application, reverence, or any of the other stable and basic qualities which are among the ideals to be realized by children; it runs side by side with and through them all as does a delicate theme or melody in a piece of music with orchestral accompaniment, binding together the various harmonies into a unified whole.



A. INDIANS

B. A JAPANESE SCHOOL

The play spirit then is an essential which should permeate the atmosphere of every primary school, constituting its moving and directive force.

2. Representative play. This is the play indulged in by children when reproducing the activities of their environment in imitation of their elders ("Olympians," as Kenneth Grahame calls them), and of institutional life as they see it. This furnishes opportunity for much first-hand contact and for introduction to the values which are to be established in the field of social experiences. Playing house, store, fire department, letter carrier, etc., with fidelity and devotion to actual detail, does much to help children to an intelligent understanding and appreciation of their environment, and to initiate that spirit of co-operation which must work out through them if they are to be happy, intelligent, helpful members of school and society.

3. Dramatic play. Dramatic play deals with reproduction of experience gathered in

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the field of the past (primitive life, history), in fields remote from personal contact (for instance, geography), and in the idealized realm of literature, be it fairy tale, folklore, myth or whatever form the gem may take. Though dealing with material different in point of time, space, or reality, dramatic play has many of the same values as representative play, which is also, of course, dramatic in its expression. It gives to the child free and full expression through the body and the voice; it enlarges his horizon, exercises his imagination, enriches his experience; it gives him another's point of view and enables him to project himself into the lives of others, thus developing understanding, sympathy, and appreciation; by 'being some one else' and realizing in conduct the admirable qualities of another person, it starts the process of carrying these over into the child's own life and establishing permanent habits and ideals. This latter, of course, is only the beginning of a development which the wise teacher must encourage by else-



ALICE IN WONDERLAND
A. The court scene B. The rabbit and Alice

where presenting conditions which will provide for repeated reaction along the desired paths of conduct. In addition to the above values the material used in dramatic play lays the foundation for the tastes and appreciations of things beautiful and worth while, which are so necessary to the background of every human being.

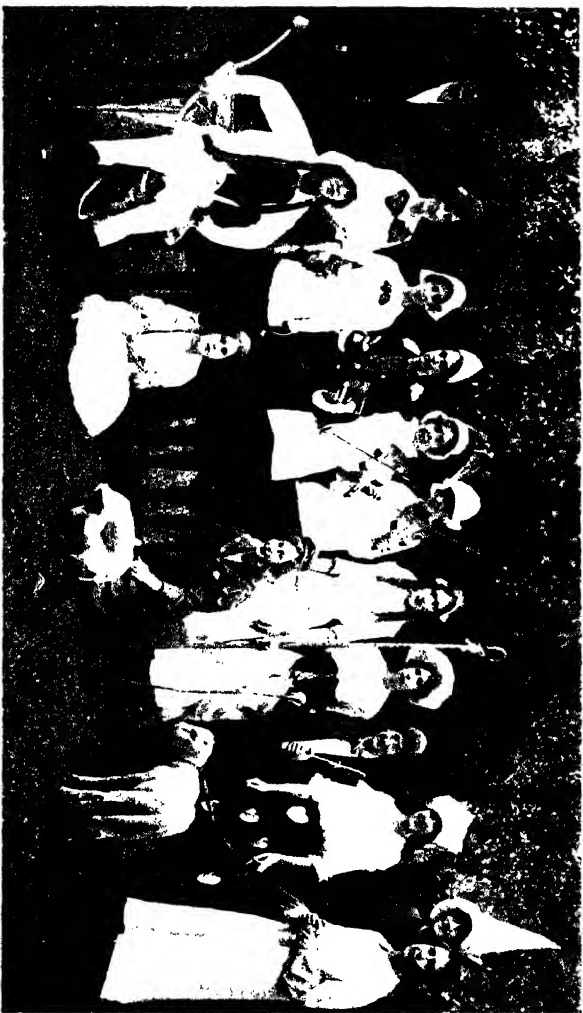
4. Play and games as determined by season, location and other geographic and physiographic conditions. These are important leads to follow as introduction to interpretation of nature experiences. Flying kites; sailing boats; playing with bonfires; coasting; snowballing; skating; playing marbles, tops, jump-rope, rolling hoops; chewing birch, sorrel, and other plant materials; making daisy and dandelion chains; gathering materials for decoration; skipping stones; digging and planting gardens; collecting stones, leaves, and other treasures; popping corn and chestnuts; baking apples; gilding nuts; stringing cranberries for the Christmas tree; feeding birds; caring for

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pets indoors and out—all these and many more spontaneous activities are directly dependent upon physiographic and geographic conditions. Why not relate them to their natural background, interpret natural phenomena through them, and lead on from these simple relations to further appreciation and understanding of the beauty, the wonder, and the significance of nature? Effect and cause, mutual interdependence, the influence of geographic conditions on the lives of people, the gradual, increasing control by man of his physical environment—all of these touch the lives even of children. In the simplest way we can employ these early points of contact and convert them into more far-reaching, ever-deepening, increasingly significant permanent controls.

(Illustration:—From kite to aëroplane; the kite presupposes wind; what else does the wind do? In what ways does it affect our lives? How are we controlled by it? In what ways are we learning to control or utilize it? This may include much or little,

MOTHER GOOSE. KINDERGARTNERS, COLORADO STATE TEACHERS' COLLEGE



many steps or few, a short or long period of time, according to the maturity, interests and experience of the children.)

In this way the child will think of and deal with nature in the spirit suggested a little farther on in the book.

5. Social and folk games and play. This phase of play needs to be given no special emphasis here, as it is one of the child's natural expressions in reacting to his social environment. It furnishes a valuable means for making the school a part of the child's real life.

Play enters vitally into all of the child's problems and projects, and must be taken into account throughout the succeeding chapters. It is also one of the most important factors in building up the physical and mental health of children.

CONSTRUCTIVE ACTIVITIES AS PURPOSEFUL ACTIVITIES

IN determining in what the constructive activities or projects of little children shall consist, the *motive prompting the children* in the doing of any special task is of greatest importance, also the fact that the activity shall wholesomely and naturally form an intrinsic part of the life of the child at any given time. The motive may vary considerably and yet be acceptable. It may be *social* and cultivate the growing and sharing spirit, as when gifts are made for different seasons of the year, or refreshments served for special occasions at school; it may be the expression of the *love of beauty* and show itself in a desire to decorate the schoolroom, or to make covers and portfolios for the preservation of school work; it may answer a *special* need, as when costumes, spears, helmets and other accessories are simply made in order to lend to dramatic expression an added sense

of reality, or when material is needed for nature study; it may furnish a *fitting climax* to industrial studies, leading to an understanding of actual conditions, as when jelly or biscuits are made from the fruit and grain harvested. Insistence upon a genuine motive there should be; otherwise constructive activity loses its educational significance and becomes barren of its best results.

The love of beauty being essential to all appreciation and adequate expression, it may be considered a dominant factor which permeates and accompanies all other motives in their attempts at realization. Hence the artistic training in design and color must be kept in mind.

Crude results should be accepted and given due credit, *providing only that they represent the best effort of the child at any given time, and that conditions exist for growth.* The work should be that of the child, with only so much of the teacher in it as prevents discouragement through unsurmountable obstacles, or standstill through

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lack of vision. The difficulties must be within the capacity of the growing child at any given time.

The suggestions following have been carried out in various schools with little children.

I. Constructive activities growing out of *play activity*.

1. Dolls, doll clothing, play-house, furniture, curtains, rugs, pictures. Store. Camp.
2. Carts, aëroplanes, engines and other reproductions of social environment, if possible on a scale large enough to be actually used.

II. Constructive activities growing out of the *social motive*, including to some extent the thought of utility.

1. Gifts to parents and friends at Christmas, Easter, Thanksgiving, Valentine's day, birthdays, involving many materials and many possibilities for variety.
2. Refreshments served at social gatherings in school, prepared and served by the children, who act as hosts.
 - (a) The making of lemonade and orangeade.



DOLL HOUSE MADE BY CHILDREN

- (b) The making of sandwiches from garden products.
 - (c) The popping of corn raised in the school garden.
 - (d) The making of jellies, corn bread, biscuits, etc., after observing the harvest on the farm.
 - (e) The invitations to the meetings.
3. Decoration of schoolroom and care of same.
- (a) According to seasonal event.
 - (b) With nature and other material.
 - (c) With products of fine art.
 - (d) Caring for plants.
4. Useful articles for preservation of work; prompted by social motive of co-operation and motive of individual need.
- (a) Scrapbooks for pictures.
 - (b) Portfolios for written work and fine art papers.
 - (c) Booklets for poems most enjoyed.
 - (d) Printing and bookmaking activities in the simplest form.
5. Useful articles and activities for class and home use.
- (a) Pencil boxes, book racks, dust cloths, bean bags.
 - (b) Iron holders, aprons, caps, etc.

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(c) Dusting, sweeping, washing, ironing, sewing, carding, spinning, weaving, dyeing, etc.

(d) Care of personal property, class property.

6. Thought for absent or sick children.

III. Constructive activities growing out of *school-garden, excursion to farm, dairy, trades, etc.*

1. The making of butter and cheese.
2. The utilizing of the garden products for social purposes, as has already been suggested.
3. The making of bird houses, feeders and fountain, chicken and rabbit coops, insect cages, etc.
4. The making of cases for collecting of nature study material.
5. The making of shadow stick, sundial, weather-vane, thermometer guard; labels for seeds.

IV. Constructive activities growing out of *desire for dramatic expression and realistic representation.* Costumes and other simple accessories.

1. Primitive life:—attempts at reproduction of clothing, tools, weapons, art-pottery and basketry, shelter.
2. Accessories for folklore material.
3. Primitive activities:—grinding corn, drilling fire, flaking tools, etc.
4. Creative attempts:—pottery, etc.

MAKING BEET SUGAR



SOCIAL EXPERIENCE AND PURPOSEFUL ACTIVITIES

It may be well to repeat here, that the diversity of reaction at different times will sometimes place the emphasis on constructive activities, at other times subordinate these to some other activity. It is this proposed *change of emphasis* which insures the flexibility of the program, makes possible a rational balance, and gives room on the one hand for the initiative of the children, on the other hand for the guiding purposes of the teacher. It is this change of emphasis which will make it essential at times to deal with social experience through the channels of oral language, representative play and the playing of social and folk games; also through the enriching influence of literature in the form of song, poetry and story. Reading, writing and number take their place as forms of expression used because of the de-

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mand of the situation, rather than because of external compulsion.

In dealing with social experience much the same approach is made as in dealing with nature experience. The motive may be inherent in certain specific situations, or it may show itself in a desire consciously to take stock of, follow up, and investigate existing conditions heretofore taken for granted. In either case the nature and extent of the material used must depend upon the experience, maturity, and specific demand of the children; it must be subject to such a conscious purpose in the mind of the teacher as will lead to greater ability for co-operation, appreciation, and participation for service on the part of the children, including necessarily better understanding of mutual relationships and of the needs and expression of others as well as of ourselves.

In connection with the study a few of the features often overlooked have been emphasized here; others have only been suggested. The main thoughts are concerned with:—

1. *The formation of good habits.*
2. *The necessity for co-operation, and the service of all.*
3. *Adequate knowledge for the best possible co-operation.*
4. *Provision for participation on the part of the children.*
5. *Complexity of modern life as compared with that of primitive man and animal life.*
6. *General needs of all.*
7. *The joy of living.*
8. *Art appreciation in our life.*

So much has been said about community life in other courses of study, that it will not be enlarged upon here. Among the results to be obtained are a growing consciousness of interdependence and of the necessity for co-operation and service on the part of every individual, children included.

THE HOME

The following illustration presents one unit in which the social experience of first-grade children in a large public school ex-

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pressed itself through oral language, representative play and constructive activity. The problems arose primarily out of informal talks with the children.

In saying good-by the question was asked, Who is at home when you get there after school? This led on to, If mother is not at home, what do you do? Who else is at home? When does father get home? In this way the members of the family were introduced. Since many of the children had baby brothers and sisters about whom there was much enthusiasm, the interest centred there, and there was spontaneous expression. Among the topics discussed were the following: What mother does for the baby; the baby's needs; what *I* can do for the baby; what father does with the baby; what baby does; baby's age; baby's food; how baby gets about; bathing baby; dressing and feeding baby; putting baby to sleep; playing with baby; and many others of a similar nature.

These discussions led to representative play. The teacher had brought an attractive boy baby with clothing and toilet articles; the children brought their dolls; they also used one another for babies, and some charming scenes were acted out. The children were most spontaneous in their reactions, the teacher helping only when there seemed need for her judgment in carrying out details or occasionally in suggesting a new line of action. As a rule, however, the children caught the spirit quickly and reproduced life with the baby most accurately. Among other things they learned the following jingles to be played with baby's fingers and toes respectively:—

This little pig went to market;
This little pig stayed home;
This little pig had roast beef,
This little pig had none.
This little pig cried, "Wee, wee wee! I can't
find my way home!"

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Also:—

This little cow eats grass,

This little cow eats hay,

This little cow drinks water,

This little cow runs away.

This little cow does nothing but just lie still
all day.

We'll whip her!

The children reported with great glee the effect upon their babies of this play. All had laughed, all but one who was crying and would not be comforted by the game. (Good pronunciation and clear enunciation were at all times insisted upon.)

Representative play giving free rein to the imagination was encouraged. Very shortly, however, some realistic touches appeared, as odds and ends of contributions poured in. A hammock, an afghan, soap, a powder box, wash cloth, towel, baby bottle, wash basin for bath tub, were among the articles produced. Pictures of mothers and babies, and paper dolls representing different members of the family were also brought.

The next comprehensive question asked was, What does mother do when she is not looking after baby? This, of course, introduced all the activities of the home, a free discussion of these and again much representative play. The cooking, washing, ironing, mending, dressmaking, housecleaning, marketing, all had their share of attention, and the children's part as helpers in the home was discussed and demonstrated. The activities were carried out realistically with or without accessories. Again articles were brought, such as, a tiny apron, a dusting cap, a dustpan, a carpet sweeper, a dust cloth, a wash boiler, an iron, all of which were used at the proper time. Among the little rhymes learned were the following by Christina G. Rossetti:—

Mix a pancake,
Stir a pancake,
Pop it in the pan.
Fry a pancake,
Toss a pancake,
Catch it, if you can.

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And:—

Somebody didn't wipe the dishes dry!

How do you know?

Because I saw the platter cry!

There were two big tears on the platter's
face.

The latter rhyme occasioned the drawing on the blackboard of a large platter with two big tears rolling down its face and the corners of its mouth properly turned down to express the mood. (Other opportunities for blackboard representation occur frequently in such a project as this.)

After much discussion and play with mother and *I* (the child) helping her, father entered. He eats his breakfast in the morning, kisses us good-by and goes to work. He does all kinds of things to earn money to pay for our needs and desires. (The occupations of the fathers represented were enumerated and recorded in the teacher's mind for future use in community activities.) Breakfast must be on time or he will

be late for his work. Why must he be on time? Where must *I* be on time? Why? What does father do when he comes home at night? (Plays with the baby, reads the paper, smokes, eats his supper, writes a letter.) These activities were carried out with a strong sense of their importance. One father was a letter carrier, so after writing, addressing, stamping and mailing the letter, it was called for at the letter box, carried to the post office, properly stamped and finally delivered at the home to which it had been sent. This play brought up two questions to be returned to at a later time: What happens to the letters that go to another city? What is the difference in the postage at the present time? (Here is an opportunity for a visit to the stamp department of the post office and the correlation of arithmetic.)

One more step is reproduced to show the growing complexity of the situation. Heretofore one member of the household had held the attention at any one time. The discovery had been made that the families varied

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in size. (This had led to some incidental problems in comparison, and in addition and subtraction of numbers.) This morning a certain child's family was chosen and she set about organizing the household. She got the family out of bed and started their process of dressing and helping. (Stevenson's, *A Birdie with a Yellow Bill*, *Bed in Summer*, or similar gems are used to advantage here. Also the telling of time and the use of the clock can be learned readily in this connection. This introduces valuable number work.) Breakfast was prepared with help, the table set, the family called, the breakfast eaten. After father left, the table was cleared, the dishes washed and set away and other duties attended to. The discussion of these problems preceded the play; the children were deliberate in carrying through the activities, unconsciously emphasizing the dignity and importance of the tasks; each one co-operated as was expected of that special member of the family; some interesting details of family life were exhib-

ited in the process. There is a sound principle involved in carrying out these activities as realistically as possible, even to the point of having real tables and chairs, real food, and attention to the *real* needs of individual members of the family.

During the course of events a number of fruitful problems leading to future activity presented themselves; of these, only a few will be mentioned. The table for breakfast had been set on a chair, the family had sat on the floor. The need for a table and chairs was very evident. Here was the teacher's opportunity to introduce some boards, sticks of wood (2 by 2's or 2 by 4's), some nails, a hammer, a saw, possibly a plane. What better introduction to the use of tools could the children have? The intrinsic motive for making the table and chairs was furnished by the need of the children; the general interest in the situation insured the attention of all and the concentrated effort of the child taking his turn at the work; the necessary skill in the manipulation of tools

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could be acquired in the accomplishing of a definite purpose; the result, though crude, was the better for the impulse which produced it, and thoroughly adequate for the occasion. (This is a concrete illustration of the principles so ably set forth in Dr. Dewey's little book, entitled, *Interest and Effort in Education*.)

The children had themselves planned to furnish an apartment, beginning on the kitchen as the room most used, taking as their medium manilla paper. (This medium was chosen because of its availability rather than because of its superiority. Wood would have been better.) All articles made were to be assembled in a furniture store, from which the best were to be selected, sold at 'real' prices and delivered at the home. Other stores were to be called upon to furnish necessary articles not to be had at the furniture store.

The second problem for future thought presented itself in the discussion as to what constituted a good breakfast for father, who

works; for *me*, who goes to school; for mother; for baby. (The teacher received an insight into the habits of the home. How to influence these habits in a tactful and yet effective way in order to improve the condition of the children is probably one of the teacher's greatest problems.) Milk was emphasized as the best drink, with cocoa as second; some reasons were given for the choice, without summarily dismissing tea and coffee. Breakfast foods and other wholesome foods were praised and the children's 'likes' enlisted in corroboration and in the building up of public opinion. (The same kind of thing can be done for other foods and other meals, gradually building up proper concepts in the children's minds.)

A third possibility for future problems lay in following to their sources the foods used on the home table. This opens up a vision of interdependence with which the child should become familiar. Suggestions have been made elsewhere as to the use of this 'leading on' principle.

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In closing this account it may be mentioned that one of the most charming and appropriate stories used in connection with these experiences was, *Dust Under the Rug*, found in Maud Lindsay's book entitled, *Mother Stories*.

Restriction in point of time had led to the selection of oral language, representative play, and constructive activities as the channels of expression. As a matter of fact, drawing and number entered the plan at various points. Reading might profitably have been included.

A second, smaller unit, involving social experience was furnished by a class of first-grade boys who undertook to reproduce the life of their soldier brothers, fathers and uncles at present in camp.

Again the home was the point of departure. The interest, however, centered about the soldier member of the family. No attempt was made to glorify or exalt the career of the soldier above that of other careers. The idea was rather to reproduce his daily

life in camp, to show the co-operation of the family in supplying his needs, to bring out his duties and responsibilities, and the seriousness of his obligation to serve the country in his own peculiar fashion.

Quite a number of the children had soldiers among their near relatives, privates and commissioned officers, so the approach was simple. The children furnished many of the details. The clothing, uniforms, insignia and other accessories were discussed. Some of the children had been to camp. A tent was made out of linen, natural color, the children suggesting methods of making it stand. A camp was made out of manilla paper, each tent bearing a tiny American flag. A sample painted glass tent was procured at the five- and ten-cent store. Various articles to be used in camp were contributed by the children.

What do the soldiers do in camp? How is camp life different from life at home? How can we make the brothers or uncles more comfortable? What do they do besides drill,

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march, dig trenches, etc.? These were some of the questions asked. The qualities necessary in a good soldier, the need for co-operation and sacrifice stood out in the course of the discussion.

Of course, the traditional appeal of soldier life to the child cannot be entirely ignored. It finds expression in the making and wearing of soldier caps, the marching, the playing of 'The King of France,' the learning of such poems as the first stanza of Field's, With Big Tin Trumpet and Little Red Drum, or Stevenson's, Bring the Comb and Play Upon It.

In all seriousness the little six-year-old boys pledged their allegiance to the flag and sang the first stanza of My Country 'Tis of Thee. They had caught vaguely the spirit the teacher tried to instill into their experience. Under conditions where it is possible to reproduce tent and camp life in the open, the children will naturally gain more largely and enter with greater zest into the actual activities undertaken. The *real* situation is

always the one to be reproduced by little children with attention to the greatest possible accuracy of detail.

While from the point of view of ethics and early habit-formation it is wrong under any circumstances to exploit little children by making appeals through them to the public and exposing them to the public eye, there are many ways in which children can become intelligent participants in the general movement for thrift and true patriotism. The best patriotism, whether in war or in peace, is that which sets itself the task of daily honest, clean, unselfish living with one's self and in one's home and community, preparing one's self from day to day to render service more intelligently, and doing well day by day those *little* acts which make for the betterment of the home, the school, the community. This is the form of patriotism which has been provided for in this book. It is one of the practical ideals of life to be accomplished by education. This form of patriotism only will make possible that

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larger outlook upon life, which includes in one's thoughts and actions people and nation remote from personal contact. This thought has been more fully developed in the chapter on The Ethical Aspect.

However, under the present unusual stress of the great struggle which we have entered upon, little children can be taught specifically many things which will include them in the universal world thought. The various activities in school can deal in a *wholesome, constructive* manner with the problems occupying every heart and mind. To illustrate this concretely, several observations are here recorded.

1. In the new Lincoln School in New York City the children posted self-made war bulletins on which were printed in inch rubber type some data of daily interest. These were used as language and reading material. Were they vital? Assuredly. During the Red Cross drive in the spring of 1918 were noted the following:

(a) A large poster showing an attractive

young nurse holding up one end of a stretcher. The words inscribed, were: "Hold up your end."

(b) One of the inscriptions seen on the streets read: "Give till it hurts." This was reproduced in the primary room. Undoubtedly it had been the basis for conversation and had been given interpretation on the plane of child experience.

(c) The following poem was printed in the same manner:—

The no-waste pledge of the loyal American child.

"I will avoid all waste; to this I truly swear.
I will be careful of my clothes, and everything I wear.
No foolish pennies will I spend; but save, that I
 may give
To those less fortunate than I, who find it hard to live.
And dishes new I'll learn to eat as far as I am able;
But one thing I will never be; that's finicky at table."

(d) Also:—

"I pledge allegiance to my flag and to the Republic
 for which it stands.—
One nation indivisible, with liberty and justice for
 all."

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(e) A new song was given the children to be read and sung for memorial day. It was printed upon sheets of paper and began:

“And now they lie beneath the flowers.”

(f) These children had all contributed to the Red Cross drive; they were interested in the thrift stamp and the war saving stamp campaign. In reporting how many stamps of each kind they had saved, they unconsciously absorbed much practical arithmetic.

(g) The children were contributing their share in handwork by making afghans for the Belgian babies. These afghans were knit in squares of pretty colored yarn and sewed together. They combined the elements of utility and beauty, giving real joy to the children who made them.

2. The Yonkers, N. Y., Trade School presented an exhibit of simply made, useful articles of service to the soldiers and the women and children sufferers. Some of

these can be made by the younger children. A partial list follows:—

(a) Gun cleaners made of oblong pieces of outing flannel.

(b) Cootie strings, crocheted out of worsted, 3 to 4 yards in length.

(c) Babies' caps, booties, jackets, dresses, nightgowns, petticoats. Children can and wish to make dolls' clothes; why not clothes for babies?

(d) Afghans and quilts.

(e) Scrapbooks containing pictures for children, and pictures, jokes and short stories for the soldiers.

(f) Wash cloths; thread wound on cards.

(g) Kit bags containing the following articles: Powder, shaving stick, tooth paste, tooth brush, wash cloth, soap, pencil, pads, envelopes, steel mirror.

(h) Articles of clothing for soldiers best made by older children. Of course, the Red Cross directions and patterns must be followed in all of this work.

3. Gardening offers one of the best op-

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portunities for joining a useful, universal activity, and developing a spirit of patriotism. It goes hand in hand with the movement for conservation, which is valuable at all times. More has been said on the subject of gardening in a later chapter.

4. Hero stories of all types are especially appropriate at the present time. There are many heroic deeds done in the quiet of private living which should receive the same appreciation as the more obvious ones of the soldier's life. Children must, moreover, be given the opportunity to *do* small deeds of heroism, involving sacrifice, courage and similar traits of character, in order that they may truly profit by these tales of heroism. It cannot be taken for granted that merely hearing these stories will have the desired effect. Only by providing for individual response do we secure the proper functioning of the nervous system. (Miss Moore, of Teachers' College, New York, has recently gathered a valuable list of hero stories.)

These illustrations suffice to show that even young children can in numerous ways be directed to participate intelligently and creatively in the present great movement towards a better world.

The units here presented precede the more general suggestions concerning the function of social experience in school life. The purpose of the work and the channels through which it may find expression have already been indicated. The scope of the subject matter from which the teacher may draw according to the particular needs of her children is indicated in the succeeding pages. Good habit formation and intelligent co-operation are among the chief aims.

Cleanliness:—

Why does mother ask you to scrape your feet before coming indoors? To leave your rubbers in the hall? Why not wipe your shoes on a handkerchief? Why do you not want dust and dirt in the home? What else can you do to keep it out?

Can you sweep? Dust? Does it make any

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difference how it is done? Will you sweep up the dirt under the desk? Dust it? (Give demonstration of right and wrong way with reasons. Let children do it.) Where is a good place to brush your clothes? Why? Why do we not want food and papers left about? Why do we burn rubbish? What do you do with your garbage? Do you ever clean the garbage can? How? Why? Line it with paper? How can we be clean at school? What do you do with wet umbrellas? Clothes? Why?

In what other ways must we be clean? This opens up the topic of individual cleanliness: hands, nails, teeth, hair, bathing, clothing, food, all come in for their share of attention and demonstration. Individual praise for observance of some of these details does much to foster public and private opinion. (Daily inspection of children by the teacher and by children of children. The spirit must be helpful rather than critical.)

How do animals keep clean? Cats? Dogs? Birds? What can we do for our pets and

animals which help us? Actual care of pets and responsibility regarding them is to be commended.

In the application of the lesson of cleanliness to school life, individual children or groups of children must be given certain duties and responsibilities; care must be taken to follow these up so as to establish them as habits. Communicate with the parents so as to carry out the same plan at home and accept reports from children and parents on the work done. The field of labor may include: bedroom, kitchen, pantry, porch, back yard, front yard, sink, ice-box, playroom, closets, sidewalks, bureau drawers, bathroom, etc. A little relevant conversation will help to establish ideals, and to call attention to the details to be looked after in each instance. The teacher must know enough about home conditions to suggest and direct intelligently in each case; if well done, the work in itself will establish intelligent and helpful relation with the home. The amount of constructive work actually ac-

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complished and valuable knowledge gained will depend largely upon the ability of the teacher to handle the situation, and upon the maturity of the children. Much can be done with small children. Among the duties at school may be: cleaning blackboard, erasers, chalk trays; dusting desks, seats; sweeping; keeping paper picked up; keeping orderly book-shelves, window sills; good housekeeping in desks; care of cloakroom, toilet, halls, playground, yard; neatness of personality and class work.

Ventilation:—

Where do you sleep? Who sleeps in the room with you? (Numbers.) How far do you open your windows? Top? Bottom? Both? Why? Why do many people sleep out-of-doors? Why do we need much fresh air? (This as a beginning.)

How many have storm-windows? Why should there be a little door to open? Hinges? How do you know when you enter a room whether you ought to have more air?

How will you get it, so as not to chill people, when they sit by the window?

Study the ventilation of the schoolroom until children learn to know when air is bad. Take them into your confidence as to where and how far to open windows, etc. Make them conscious of the fact that there is a need and a way of ventilation. Create a demand for good air and a habit of procuring it. How do you know that a room is too cold? Too hot? What happens to you when it is too cold? Too hot? Why is it bad to have the air too hot? Too dry? How can you make it more comfortable? How do you know when it is too moist? Where does the moisture settle? What does mother have in the house to tell her when it is warm enough?

Teach the children to read the thermometer. Show effects of heat and cold by simple experiments. Put thermometer indoors; top of room; floor; outdoors; in boiling water; in ice; in ice mixed with salt as it comes in the ice-cream freezer; in the sun; in the

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shade. Why do we use it in baby's bath? Why outdoors? Why in greenhouse? What is the difference between greenhouse and our home? Test with thermometer. Why more heat in greenhouse? More moisture? How is greenhouse ventilated? Why must the gardener be careful?

Must animals have fresh air? Why? How much? Are their homes well ventilated?

What happens when you have not enough air? Try it. Hold mouth and nose shut. Why is a bad cold uncomfortable? Why is it bad to breathe through the mouth?

How can you help mother to ventilate properly? How can you help in school?

Plumbing:—

Why does mother want you to be careful as to what you throw into the basin? The sink? The toilet? Why does she ask you to wash out the basin at once after washing your hands? In what rooms do you see plumbing? Why open? Why is our plumbing necessary? What would happen if we

did not have it? What are traps for? (Trace with children intricacies of modern plumbing: pipes, traps, etc.) Why did the cave man, the Eskimo, etc., not need plumbing as badly as we do? (Trace greater complexity and larger units of our modern life in comparison to primitive man.) How should we keep clean without it? Well? Comfortable? When anything is out of order, who repairs it? How do you get the plumber? Why does he get pay for his work? Who pays him? etc.

In this and other topics concerning the various features of home comforts, the children should be led to get a feeling for:—

1. *The need of care in handling our various comforts.*
2. *The functions of the comfort under consideration.*
3. *The deprivation attendant upon interruptions in the functioning of these comforts.*
4. *The knowledge necessary to give them the proper care.*
5. *The agent of repair; when the function is interfered with.*
6. *The element of cost in repairs, and the factors involved in meeting the cost.*

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In each case the application must be made to school conditions as well, and the children organized to protect and care for school property. Some practical demonstrations may be necessary to accomplish this.

Repeat at school the line of work suggested for the home. Determine *where* old flowers, papers, remains of lunch, etc., shall be thrown. Throw responsibility upon individuals or groups of children; follow them up to see that they are faithful to their trust and establish the good habit. If *they* are delinquent, let *them* sometimes call up the plumber or whoever is necessary to repair the damage; let *them* under your guidance make arrangements, so they may learn what trouble is involved in carelessness. Show pleasure in and give praise for good care and faithful service. Make daily or weekly tours of inspection with them.

Lighting:—

Do you know any animals that can see in the dark? What do you do at home when

it grows dark? What kind of light have you? According to the kind of lighting children deal with, the following suggestions may be pertinent: Why must you be careful to turn out the gas completely? How do you care for your kerosene lamps? What does father do when your electric light burns out?

Why does mother ask you to put out the light when you are not using it? (Again the question of cost, and complexity of living.) Where do we get our light? Follow up so far as possible the situation to its source; trace pipes, electric wires, visit gas plant, determine source of supply, etc.

The hygiene of the eyes may be introduced by: Why do I ask you to sit with the back to the light when you read? Why must you have a good light for working? What is a good light? Why not let the sun shine on your book while reading? What are candles good for? What did people do before they had electric lights, etc? Comparisons with primitive people, etc., showing the ad-

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vantages of our position. (Candles may be dipped.) Lighting (proper) of schoolroom. Let them try experiments, facing light, having light come from different directions; room too dark, too light. Shadow on paper. Proper holding of book; distance from eyes, etc.

Can these lights (whatever they are) be used for anything besides lighting purposes?

Heating:—

How do you keep warm? Let children enumerate sources and means of heating they know, including the sun. As with previous topics go into the question of comparative efficiency, amount of care needed, source of supply, means of obtaining, cost—absolute and relative at different times of the year—means of paying for it, who looks after it, amount of labor involved. Make application to heating system of schoolroom. What can be children's share at home?

After this a comparison with the life of primitive man, the Pilgrims of Thanksgiv-

ing acquaintance and a recognition of the handicaps of animals, will prove of value. By continuously binding together the present-day life of the child with that of other people on the one hand and that of the rest of the animal world on the other, a consciousness will gradually be evolved, which will:—

1. *Realize the universal needs of living creatures.*
2. *Account for variations on the basis of differing local physical and social conditions.*
3. *Understand, tolerate, respect and sympathize with the efforts of all towards betterment.*
4. *Lend a willing hand in the necessary service toward the desired goal.*

This attitude of mind thus trained is one of the most necessary factors in the complexities of modern everyday living, be it on the basis of individualism, nationalism, or internationalism. It is also the indispensable basis for the study of geography and history. While the child is unconscious of this purpose, the teacher should have it in mind

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constantly and use every opportunity to realize it in the reactions of the pupils under his care. (This attitude of mind is of necessity slow in its growth, but indispensable to modern democratic thinking and conduct.)

The danger from fire may be pointed out, and ordinary measure for prevention emphasized. Why not leave matches about? Why cover the grate fire with ashes before going to bed? Why not blow out gas stove? Why put out your fire when camping? When burning leaves, etc.? How build or start a fire? Why not with kerosene or gasoline? For what other purposes do we use fire?

In view of the foregoing illustrations it will not be necessary to continue indefinitely in the same manner. Hence suggestions regarding the study of food, shelter and clothing are given mainly in outline form, to be handled by the teacher at her discretion and from the same point of view. These outlines may be adapted to any of the first three

grades, and used as a whole or in part as desired.

Reading, writing, industrial and fine art, number, music, etc., will grow out of the study of social environment. Children may keep a simple diary of interesting daily or weekly events; they may record duties assigned to them; also data learned, dates of birthdays and other festivals; they may keep account of individual or class expenditures; they may list school needs, requests or recipes tried or saved for future trial. Bulletins may be written or printed and posted, giving desirable or necessary information to the social whole, such as directions for excursion, time of meeting, program for morning exercises, current events, etc.

Children may read to one another material brought from home or assigned by teacher for special purposes or occasions. They may tell stories heard or read at home. Number will come out of projects in industrial arts connected with study of social environment; for instance, in utilizing the ma-

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terial of garden, farm or excursion to store, the elements of expense, amounts in recipes, winter and summer prices, measurements and other factors will enter into the necessary calculations. Number games, also, can be played in connection with everyday social intercourse.

These are only a few suggestions, all of which must, of course, be carried out in the simplest way. Many useful and pretty articles may also be made to help the social work at home and at school. (For further material along this line see chapter on Constructive activities.)

Occupations, Expenses, Allowances, Saving, etc. :—

Summary of comforts and conveniences which help to make a modern home.

What is necessary to keep our home?

What does mother do towards keeping up the home?

What does father do towards keeping up the home?

What expenses does father have in connection with the home?

What are some of his own expenses?

What are some of mother's expenses?

What are some of your expenses?

What can *you* do to help keep up the home?

What would become of you if father and mother did not work?

Have you ever heard father or mother say, "We cannot afford this"?

What do they mean? How do they know how much to spend on food? Clothes? Heat? Rent? etc.

Are there any times when you need more money than usual? (Christmas, vacation, birthdays, illness, etc.)

How does father manage to have money for this? Would you like to use money? To save some? Can you do anything to earn money?

By applying this idea to school life, thrift clubs and savings accounts can be started with small children. War saving stamps

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and certificates may be bought. In many instances the parents will be willing to give a small weekly allowance; the spending and saving of this can be supervised.* A certain part may go for necessary expenses; a portion may be saved; and a small portion may be allowed for personal indulgence or for giving pleasure to others. The children are taught to keep accounts in a very simple way and to be responsible for certain needs of their own, such as pencils, erasers, rulers, paper, etc. They will thus learn to value property more, to know how large a share can profitably go for mere pleasure for themselves or others, and by balancing accounts weekly to utilize some practical processes in the handling of number.

What does your father do to earn a living? At what time does he start? When does he get home?

Go into occupations as much as circumstances will justify; this leads out into community life and the interdependence of its

members—the next large topic to be discussed.

Can he get to his work at any time? Why not? Must mother be on time? When? You? Regularity and promptness being two of the necessary accompaniments of everyday adult life, the child may be led to see the application to his own life as regards school attendance, appearance at meals, doing of chores, etc. The plumber, electrician, coal man, grocer, and others have already entered the child's home life. Now is the time to follow them into their own surroundings to find out how *they* spend their time, how they live, what some of their expenses are, on whom they depend and how.

FOOD

Based on nature and social experience.

(These studies necessarily overlap with outlines on nature experience. They also presuppose excursions, whenever this can be made possible.)

I. The home table.

1. As supplied from garden, farm and store.

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2. As supplied from other sources. Geographical distribution.

Use of globe and maps. (This for third grade.)

(a) State.

(b) Other portions of same country.

(c) Foreign countries.

3. Medium of trade. Trades people, etc. Money values.

4. Preparation for market.

5. Shipping to home town.

II. Garden products. Children's gardens or home garden.

1. Kinds.

2. Parts of plant used. Study of plant as a whole and function of each part. Typical examples.

(a) Roots.

(b) Stems.

(c) Leaves.

(d) Fruit.

(e) Seed.

(f) Flower. Is it ever used for food; what is its use?

(1) Botanical. (To the plant.)

(2) Esthetic. (To us.)

3. Care given to plants during season of growth.

(a) Irrigation.

- (b) Protection from insects.
- (c) Protection from weeds.
- (d) Protection from weather.
- 4. Harvesting.
 - (a) Method of procedure.
 - (b) Time of year.
 - (c) Storing and shipping.
- 5. Market price.
 - (a) Correlation with arithmetic. (This has several times previously been suggested in connection with the cost of upkeep.) One of the larger projects.
 - (b) Basis for awarding of prizes at fairs.
 - (c) The County fair and the School fair.
- 6. Simple methods of preparing for the table; cooking, canning, preserving, drying. Try out one or the other.

II. The Farm.

- 1. Products of agriculture. Treated similarly to topic on garden products.
- 2. Live stock.
 - (a) Uses; meat; dairying; hides; etc.
 - (b) Care needed; shelter; food; cleanliness; etc.
 - (c) Food derived from live stock.
 - (d) Methods of preparation and their relation to the market.

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3. Poultry. Treated similarly to topic on live stock.

IV. The food of our domestic animals.

V. The food of primitive man. (Comparison with our own food.)

During the winter when nature material is more difficult to obtain, the grades may take up a study of the topics of food, shelter and clothing. A vital connection is here made with the industrial arts department, since the children learn to weave, to invent devices for improving their looms, to make and color simple and appropriate designs, and can be taught the processes of spinning and dyeing with vegetable dyes and various roots and berries. In this way they enter into the experience of the primitive people.

Why do we live in houses? Of what is your house made? Your neighbor's? Most of the houses in your town? Why? What other materials are used? What are some of the features common to every house? What is done first? How is the foundation made?

Where is the lumber obtained? How does it get to the lumber yard?

Such questions as these create a need for knowing the source of supplies.

Excursions to houses, in various stages of construction, to the lumber yard, the brick yard, the stone quarry, should be undertaken whenever possible, for one object lesson of this kind outweighs in value many oral recitations in the classroom. Incidentally, some valuable material for related arithmetic may be gathered. Cement blocks and mortar may be made and a typical house may actually be constructed by the children. A playhouse using boxes or lumber may be constructed. Furniture for dolls may be constructed of wood with real tools, teaching the processes of hammering, sawing, planing, etc. Other furnishings will then need to be made.

Next may come a study of the needs and adaptations of primitive peoples, including the Tree-dwellers, Cave-man, Cliff-dwellers, Lake-dwellers, the Eskimo, the Indian, and the shepherd of the plains.

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The following outline shows *one* way in which the topic of shelter may be approached by the children, and related to nature experience.

SHELTER

I. Modern homes.

1. Purpose.

(a) Protection from weather.

2. Construction, arrangement and furnishings.

3. Material used and methods of obtaining it.

(Third or fourth grade.)

(a) Lumbering.

(b) Brick-making.

(c) Quarrying.

(1) Marble and granite.

(2) Sandstone.

(3) Limestone.

(4) Shale.

II. Animal shelter. (Comparisons with our homes.)

1. Purpose.

(a) Protection from weather.

(b) Protection from enemies.

2. Material used introducing specific animals such as the beaver, bird, etc.

3. Method of construction.

III. Shelter for primitive man. Specific instances.
(Comparison with our homes.)

1. Purpose.

(a) Protection from weather.

(b) Protection from enemies.

2. Location and reasons for same.

3. Material and reasons.

4. Method of construction.

5. Furnishings.

The first topic, among others, necessitates nature study lessons on the principal kinds of building stone, the ability to distinguish each one from the others, and the recognition of each in the field.

The topic of clothing is approached in very much the same way, animal life and primitive people known to the children furnishing examples of purpose and adaptability to physical conditions, and of available material. In how far does our clothing respond to the same need as that of primitive people? What element, unknown to early man, figures largely in our choice of clothing? Is the

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factor of expense more or less legitimate in the choice of clothing than the original factor of adaptability? These are some of the thoughts in the mind of the teacher, which accompany the inquiry into the purpose, material and construction of the clothing in each individual case. Wool, silk, fur, leather, cotton and linen are the materials discussed with the children in connection with their own clothing. The relative warmth, weight, expense, and the process of preparation are studied, and specimens, showing different stages of preparation, are used and illustrated. An interesting collection may be made by encouraging the children to bring samples in different colors and textures of the various materials, and mount these on cards. A good opportunity is here offered for cultivating the sense of touch, and several interesting touch games may be played. Some simple tests determining the genuineness of woollen, cotton or silk fabric may be made.

CLOTHING

Based on nature experience and studies of primitive man.

I. The people we live with.

1. Purpose of clothing.

(a) Protection.

(b) Beauty.

2. Material used.

(a) Collecting instinct of children utilized in making collection and mounting same.

(b) Kinds: Cotton, silk, wool, leather, fur, rubber and linen.

3. Adaptation and changes in material according to:

(a) Climate.

(b) Style.

(c) Financial resources.

4. Sources of material and geographical distribution. (Third grade.)

(a) Animal.

(b) Plant.

(As a rule the materials derived from animal sources are of greater interest to little children than those derived from plants.)

5. Methods of obtaining material, leading to study of industries in so far as they appeal to developments of third grade child.

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- (a) Method employed as a rule leading from finished product back to source, on the principle of leading from the known to the unknown.
- (b) Wherever the close relation of nature study demands it, the order may be reversed. For instance, the study of the sheep of the neighborhood, may lead to a study of the wool industry.
- (c) Industries developed.
 - (1) Silk.
 - (2) Fur.
 - (3) Wool.
 - (4) Leather.
 - (5) Cotton.
 - (6) Linen.
 - (7) Rubber.
- 6. Experimentation.
 - (a) Spinning and carding.
 - (b) Weaving.
 - (c) Dyeing with vegetable dyes, roots, berries, etc.
 - (d) Designing in pencil, crayon, water color.
 - (e) Dressing of dolls to represent primitive people.

(f) Application of these processes in industrial and fine arts in the daily life of the children.

II. Animal covering, typical and specific examples.

1. Need for covering.
2. Kinds: fur, feathers, hair, etc. (Illustrations.)
3. Adaptation to seasons.
 - (a) Thickness.
 - (b) Color.
 - (c) Habits other than change in covering.
4. Differences in young and old.

III. Primitive man. (Comparisons with our clothing.)

1. Need for clothing.
 - (a) Protection.
 - (b) Beauty, leading to thought of instinct for decoration.
2. Material used.
 - (a) Adaptation to environment.
 - (b) Conquest of environment, by introduction of textile arts.
3. Sources of materials and methods of obtaining, leading to picture of daily life of people involved, distribution of work, etc.
4. Stability.
 - (a) Different clothing for different occasions, festivals, dances, etc.

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(b) Fashion as compared with modern ideas.

SUMMARY

Condensed outlines for the study of social experiences covering the entire field.

A. THE HOME

I. Members of home.

1. Relations to one another.
2. Occupations, expenses, allowances, savings.
3. Dependence upon people outside the home.

II. Hygiene, sanitation and general comforts.

1. Cleanliness.
2. Ventilation.
3. Plumbing.
4. Lighting.
5. Heating.
6. Labor-saving devices; machines; electrical appliances, etc.

III. Necessities.

1. Food.
2. Shelter.
3. Clothing.
4. Beauty of home.

B. THE COMMUNITY

I. The private workers.

1. Who come into the home to serve us.



SHOWING THE SPINNING PROCESS
Let the children try



SHOWING THE CARDING PROCESS

2. To whom we go to be served.
3. Whom we serve.
- II. The public servants.
 1. Letter carriers.
 2. Policemen.
 3. Fire department.
 4. Street cleaning department, etc.
- III. Institutions.
 1. School and schools.
 2. Church and Sunday schools; Y.W.C.A., etc.
- IV. Communication, present and past.

Telephone, telegraph, mail, etc.
- V. Transportation.
 1. Present. The horse, automobile, street car, railroad, boat, etc.
 2. Past—according to studies made of primitive man.
 3. Comparisons, working back and forth from past to present and present to past.

C. THE FARM

- I. The animals of the farm.
 1. How they live and what they do.
 2. The care that the farmer gives them.

Reasons.
 3. Why does he keep them? They are expensive.

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II. The occupations of the farm.

1. The work with the soil and the growing of products.
2. The milk, cream, cheese and butter.
3. The raising of poultry.
4. The work in the house; cooking for the farm hands, etc.
5. The hauling and selling.
6. The winter work.

III. Interesting and useful things on the farm.

1. The pump or well.
2. The silo.
3. The cream separator.
4. The machinery, etc.
5. The elevator.

IV. Comparison of the farm with village and city homes.

1. Farmhouse and convenience.
2. Means of getting about.
3. Roads.
4. The food we eat.
5. The noises we hear.

V. What does the farmer have to do with the rest of the world?

1. What he furnishes.
2. How he gets it to its destination.

3. What he receives in return.
4. How his life compares with that of trades people we know; of city people, etc.

D. OUR SCHOOL

~~This~~ This topic must be adapted to local conditions. It might profitably head the list of topics.

E. OTHER FEATURES OF LOCAL INTEREST

THE ETHICAL ASPECT

THE question has been asked, "Is it ethical to care more for those near one than for those more remote?" Aside from the fact that for reasons to be stated it is more usual to do so, the answer would seem to be 'Yes' and 'No.' 'Yes,' because first-hand contact with people is the only basis for personal experience with them and first-hand contact with personal experience is essential to the development of the elements in character, such as sympathy, understanding, willingness to share, readiness to serve and to co-operate, controlled emotion, directed intelligence, conscious team-work and others, which make up the complexes of ethical conduct. The fuller and richer the individual experience, the greater are the possibilities for fondness of those near at hand, for the transference of this 'caring' to the more remote, and for the expression of this 'caring' in conscious co-operative effort. Moreover,

only through first-hand contact and personal experience can the projection come of the response to and the co-operation with a more remote group, a wider field of ideas, a larger vision and greater mutual helpfulness.

The answer to the question asked will be 'No,' if the response becomes limited solely to the personal contact, if it excludes and hinders the expansion indicated, more still, if it results in an alien attitude of mind and action towards those groups, ideas and visions which lie outside the close contact and personal experience.

We Americans have a peculiar and unique privilege and responsibility with regard to both the close contact and the larger vision. The immigration question is pre-eminently our problem. Nowhere else is there such a medley of peoples welded into one whole. To make this whole, not homogeneous altogether, but organically unified, so as to produce the type most to be desired, while encouraging variations which will preserve and perpetuate all valuable ingredients, is

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the supreme ethical problem. Much has been done by the public school in the assimilation of this heterogeneous material; more needs to be done. At the same time, however, that our ideals, purposes, customs and practices are transmitted to the newcomer and conditions are provided so that he may normally react and make them his own, another aspect heretofore greatly neglected needs to be emphasized, if family life is not to be seriously endangered, and if much of the rich social inheritance is not to be irredeemably lost. The point is this: If the children are thoroughly assimilated and the parents remain foreign in thought and action, there arises an unavoidable tension and friction between the two generations which is as disintegrating to the children and the group as a whole, as it is tragic for the older generation. There are two ways of avoiding this result, both of which are equally imperative: (1) The parents, too, must become imbued with the ideals, purposes, customs and practices of their new



CONSTRUCTING A NEW ENGLAND FISHING TOWN

country. (2) The ideals, purposes, customs and lore of the groups to which the parents belonged must take their legitimate place in the home and school life of the children, and bring to them and to their companions the special contribution each of them has to give. If properly utilized this contribution may become in school a strong socializing agent and the stepping stone by means of which the children will make the transition in thought and action from the first-hand contact of home, school and community to the larger vision of appreciation of and co-operation with all human groups. To do this is the function of geography and history teaching.

It is obvious that in the higher grades of the elementary school the study of geography, history, literature, art, music, if presented on the basis of universal appreciation, of worthy achievement, will have a share in the developing of this larger consciousness to the extent to which it demands and fosters it as a *habitual attitude*

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of mind. The possibilities are great indeed. What, however, has this discussion to do with early childhood? The following incident may make clear the connection:

A group of college students in child lore were sent to a 'Baby welfare exhibit,' representing the needs of children below the age of two years. The suggestion was made that they render a critical constructive report of the significance of the exhibit. They returned enthusiastically praising the exhibit on the side of physical hygiene. "But," was the question asked, "Why was there nothing to indicate the importance of caring for the *mental* hygiene of little children? It is clear to every observer of children even under the age of two, that many of their 'mind sets' are initiated and many 'habits' formed as soon as the children become conscious of their social contacts. The waste involved in breaking wrong habits and establishing correct ones later on is great; also, the chances for non-elimination and non-modifiability of early established habits must always be

reckoned with. May we make posters which will attract the attention of and carry conviction to the public mind, showing the importance of educating for early attitudes and habits of *mind*?" These students had grasped the psychological and pedagogical bearings of this question and the posters produced were simple, direct, dramatic, and carried conviction to the observer. Good mental attitudes and habits must be provided for from the very beginning, if we would reap the best possible results and avoid friction and waste of effort through the necessity of breaking bonds which should never have been established.

There are three main points to be emphasized in the working out of the problem set in these pages. (1) *The desirable attitude of mind and habits of response must be developed early, the earlier the better, and must be grounded in daily conduct for which conditions must be provided in the social and physical environment of the children.* (2) The material used in school to establish a

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closer bond between parents and children on the one hand and between children and the larger human groups on the other, must be appreciated and acknowledged as coming from various human groups, and may consist of folk games, folk dances, folk stories and poetry, folk music and art; also of a well planned course in history and geography, in which the interest centers about child life in communities remote from the home group, as well as in home geography. In these groups life must be relatively simple so as to come within the interpretation of little children, and so as to enlarge their personal experience by thinking and living as members of the group studied. For example, taking as point of departure our most severe winter weather with its snow and ice and its discomforts as well as its pleasures, the life of Eskimo boys and girls may be approached through this home experience, and interpreted in terms of longer periods of time, more extreme conditions, greater isolation and increased distance

from the comforts available to us. The question, "What would *you* do if you were in this boy's or girl's place?" if properly provided with the determining background, and to a large extent with the means of execution will lead our children to intelligent thinking, sympathetic appreciation of handicaps as well as of achievement, and reasonable adjustments and responses to existing conditions.

(3) The proper and ethical use of the material suggested will lead to the ability of living in close contact with others on a basis of mutual regard and helpfulness; to the growing respect for personality and its legitimate demands; to the appreciation of worthy achievement in whatever human group it has been produced; to the desire to add a contribution of one's own to the general fund of valuable inheritance to be used for the good of all.

With keen appreciation of Stevenson's charm and insight it may be pointed out that his:—

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“Of speckled eggs the birdie sings
And nests among the trees;
The sailor sings of ropes and things
In ships upon the seas.”

“The children sing in far Japan,
The children sing in Spain.
The organ with the organ man,
Is singing in the rain.”

with its touch of universal comradeship and common ideals represents more adequately the hoped-for permanent ‘mind set’ than his:—

“Little Indian Sioux or Crow,
Little frosty Eskimo,
Little Turk or Japanee,
O, don’t you wish that you were me!”

The exuberance and physical exaltation which prompts the latter expression is, of course, normal, legitimate and innocent if it stands for a temporary ebullition of joy rather than for a dominant attitude of thought.

Little children must, of course, be largely

unconscious of these ethical aims and purposes which are carried constantly in mind by the teacher. The responsibility of bringing about the desired results rests with her; it is her task tactfully and skillfully to provide the proper conditions which will insure in the children the responses necessary for continued growth along the lines indicated. To summarize:—

1. The teacher must be able to illustrate by demonstration that everywhere human groups have produced achievements worthy of being included in the social inheritance.

2. She must in dealing with little children place the emphasis upon *similarities* among human groups — *common* needs, ideals, thoughts and so on—rather than upon differences.

3. She must know in how large a degree differences in human groups are due to variations in environment, and lead others to see this.

4. She must be able to trace the relation between environment and opportunity,

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and show its expression in the general life of different human groups.

5. She must have the knowledge and insight to interpret conduct in various human groups in terms of growth, of conquest, of environment, of contribution to human achievement.

6. She must herself understand and creatively react to the human group in which she is working in order to develop in the little children the same ability. (Read: Angelo Patri's, *The Schoolmaster of a Great City*, Macmillan Co.) She must herself have faith in the larger vision and in the integrity and possibility of growth in the various human groups. She must through her own life and through that of the little children carry the conviction that co-operation, 'team-work' is not merely possible, but the universal end greatly to be desired among individuals and among human groups alike.

It is not necessary here to enumerate at length projects which little children will want to carry out in working for these re-

sults. Many have already been suggested in the other chapters of the book. The children's social experience provides for a number; the 'safety first' movement; the policeman's function as 'helper'; the letter carrier bringing us into touch with home and foreign lands; the festivals—Christmas, Easter, Harvest, Thanksgiving—in which all do their share; the life of other little children in other lands, all of these projects are part of the children's lives and furnish the possibilities needed for growth.

During this period of international stress and reconstruction *the principles involved which are constructive and which are valuable at all times* are the ones to be emphasized with our children by means of concrete projects. In conservation of all kinds, in Red Cross work, in the thrift saving movement, in the spirit of general helpfulness and service are found the tasks which are within the strength and comprehension of little children, and which will fill their minds with the thoughts that establish the bonds of

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good fellowship and brotherhood. Happiness and joy are the birthright of the children. They make for mental health and vigor and those qualities of character which are needed most in a social world.

“But there is neither East nor West, Border nor
Breed nor Birth,

When two strong men stand face and face, tho' they
come from the ends of the earth!”

Kipling.

NATURE EXPERIENCE

“For Nature, true and like in every place,
Will hint her secret in a garden patch,
Or in lone corners of a doleful heath.”

R. W. Emerson.

“To read the sense the woods impart,
You must bring the throbbing heart.”

R. W. Emerson.

“See yonder leafless trees against the sky,
How they diffuse themselves into the air
And ever subdividing, separate
Limbs into branches, branches into twigs;
As if they loved the element, and hasted
To dissipate their being into it.”

R. W. Emerson.

“I thought the sparrow’s note from heaven,
Singing at eve on the alder bough;
I brought him home, in his nest, at even;
He sings the song, but it cheers not now;
For I did not bring home the river and sky;—
He sang to my ear, they sang to my eye.
The delicate shells lay on the shore;
The bubbles of the latest wave

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Fresh pearls to their enamel gave ;
And the bellowing of the savage sea
Greeted their safe escape to me.
I wiped away the weeds and foam,
I fetched my sea-born treasures home ;
But the poor unsightly, noisome things
Had left their beauty on the shore
With the sun and the sand and the wild uproar."

R. W. Emerson.

"As I spoke, beneath my feet
The ground-pine curled its pretty wreath,
Running over the club moss burs ;
I inhaled the violet's breath ;
Around me stood the oaks and firs ;
Pine-cones and acorns lay on the ground ;
Over me soared the eternal sky,
Full of light and of deity ;
Again I saw, again I heard,
The rolling river, the morning bird ;—
Beauty through my senses stole ;
I yielded myself to the perfect whole."

R. W. Emerson.

NATURE EXPERIENCE AND PURPOSEFUL ACTIVITIES

It is very evident that social experience and nature experience are blended so constantly and naturally in everyday life, that they cannot be arbitrarily separated. The need for a clear-cut presentation and the limitations of the printed page have made a division necessary; again there arises the question of the shifting of emphasis rather than an elimination of relevant topics. One does not and cannot exclude the other. Both emphasize largely the same principles and provide for the building up of the physical and mental health of the children.

The mere getting acquainted with nature is one of the most vital impulses of the active child; the identification, enumeration, observation, appreciation of all phenomena that come within his reach. Especially is he concerned in every living thing, largely because of the elements of motion and change

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contained in it; hence animals and plants engross his attention, how they live and move and react. Inorganic nature is part of this moving, changing life, a sort of background for it; besides it has its own fascination, so it should not be neglected.

The seasonal choice of topics for young children is the most natural, because of its direct appeal; the everyday occurrences in nature are of value for the same reason and should constitute the bulk of the material. Should an unusual event occur, a circus come to town, a rare specimen be brought in, it should, of course, be exploited to its full extent. However, to hunt for the exceptional and startling is neither necessary nor desirable, and largely defeats the aim of the work.

Nature experience for little children must be first hand. Stuffed specimens and pictures are good in their place for identification, for illustration of story and geography material, but they can never hope to fulfill the function of nature study. They are

dead; nature is alive. This brings us to the method of approach and to the method of dealing with nature experience.

Children are constantly asking for the why? what? how? what for? when? where? of things. This should be the clue as to material handled, the data emphasized—the functional side of life being the significant one, the structure being subordinate and touched upon only in so far as it helps to understand and illuminate expressions of nature activity. How a bird lives; what he eats; how he gets his food; where he finds it; where he has his home; how he makes it; how he looks after his babies, etc.; these are the problems to follow up. To illustrate: The number, size, position of teeth are immaterial so far as the child is concerned; the significant factor being the food of the squirrel for which it needs more resistant teeth than we have. By approaching nature from the side of her expression of herself, the children gradually come to know that the creatures all about them have problems similar

to their own, that they are all in various ways dependent, that there are causes which produce the effects they observe, and that respect for all creation is one of the laws necessary to learn. Also they gradually learn to think of themselves as only one in a vast universe of wonderful living and changing identities; this should be one of the elements developed by nature study and geography, leading on to the 'understanding which makes the whole world kin.' *The ethical and appreciative values of nature experience can hardly be overestimated*; the economic value is of importance, though to a greater degree a little *later*, when the children are more mature and the love, sympathy, and appreciation necessary for the best attitude have begun to take root. The scientific value at this time lies largely in *the habits of work and attitudes of mind* established in nature experience as well as in other lines of work. *The social value is emphasized* in excursions, gardening, utilization for social purposes of the fruits of the work, and in other

similar ways involving normal relations among children, and team-work.

. That 'eugenics' can and should not be taught in the primary grades needs hardly be stated. However, it should be pointed out, that because of the impersonal basis and the universal occurrence of reproduction in nature, observation and respect cultivated early along this line, will make the later necessary personal study a natural growth. Pollenization of pussy willows, fertilization by bees for older children, the life history of the chick, the egg as the treasure house of many animals, the tiny kittens, the care of animals for their offspring, the function and distribution of the seed in plants, all of these data form a valuable and indispensable background to the outlook upon life. Add to these, good habits of cleanliness of mind and body formed in little children, and the much-discussed problem of adolescence ought to be simplified. The child by means of his nature experience follows interests which are vital to him at the time, and at the same

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time lays the foundation for something which leads him on to a life project.

It is most important that facts told by the teacher should come under the possible observation of the child. Care should be taken: (1) To keep him in an open-minded, 'suspended judgment' attitude; to avoid forcing him into making generalizations for which he has not sufficient data, thus keeping his interest alive, as well as working for truthfulness and accuracy of attitude and statement. (2) To avoid injudicious, indiscriminate telling by the teacher of facts, which take the zest from further original investigation. Wise and skillful is the teacher who can tell just enough and at the proper time to whet the appetite and stimulate to further research. The problem of the teacher consists in encouraging towards nature an open-minded much-varied, sympathetic appreciation and attitude, a habit of mind in dealing with phenomena by means of specific details under observation. To the little child the *personal element* is very close,

permeating all his relations with his environment.

The amount of material covered, the time devoted to it, the sequence followed, the adaptations made will depend in each case upon local conditions, individual preference, experiences and maturity of the children, administrative difficulties and so on. At best a scheme of work such as is given here can only indicate the point of approach, the attitude toward the problem and suggestions and data towards its solution. The individual teacher must assimilate and recreate according to the peculiar needs of her situation, otherwise the best plan becomes stereotyped and artificial. In the higher grades, beginning with the third and fourth, more mature problems and greater detail may be worked out and the economic side of nature experience can be stressed to a greater extent.

It is in the hope that these suggestions may prove helpful in themselves and lay the basis for future agricultural and geographic,

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social, and historic studies that this plan has been written. The general scheme has been to indicate the scope of the subject, to present in detail certain portions of it, and to *point out the connections which exist between nature experience and other phases of experience in the child's life.* These points of contact should be the starting point of any study or investigation made. In this way it will present itself to the child's mind as a problem to be solved and related to other problems. It is hoped by these means to avoid the ordinary fallacy of the primary program which consists in separating into 'compartments' the naturally unified life of the child. (See chapter on Play.)

The divisions into animal life, plant life, weather and so on are necessarily arbitrary and overlap frequently. All that has been said about play, children's projects and problems, expression through oral language and the use of literature in connection with social experience bears equally upon the field of nature experience.

SUGGESTIVE STUDY

BIRDS

BEGINNING in the fall the general topic of migration is a seasonal one to bear in mind. There are several ways in which it may be approached. Here is one.

MIGRATION OF BIRDS

What birds have you seen lately? Where? What specific bird? What was it doing? What did you see the robin doing in the spring? Does it mate now? Build a nest? What has become of the baby birds? (Children may report not having seen any birds, or having seen them in flocks.) What has become of the birds you saw last summer? Why do robins (blackbirds, etc.) gather in flocks now? How do they know when it is time to go? Is there anything besides cold weather to drive them away?

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FOOD

What does the robin eat? The woodpecker? The chickadee? Where does he find his food? How does he get it? Does he always have plenty? When does the robin get a big meal? Why does he go away? What other birds would have to go for the same reason that the robin goes? What does the chickadee eat? What does he do when the insects are gone? Is there any way to help him? What can we do? What shall we feed him? Where shall we put it? Why not on the snow? How often? (Activities involving the constructing of bird feeders, bird fountains, suet suspended from trees, grain baskets, are in order here. The Christmas custom of putting out a sheaf of wheat tied to a pole can be followed and the little poem of Christmas in Norway, by Celia Thaxter, read to the children. Stories like Why the Evergreen Trees keep their Leaves, by S. C. Bryant, and The Birds of Killingsworth, by Longfellow, the woodpecker and

robin stories and others may be used to advantage; read, told and acted.)

Why do we not want the birds to die? will open up a discussion of their beauty, song, charm of movement, utility.

Do we ever have trouble in getting food as the birds do? (Such a question will make a connection between bird life and the study of home, farm, winter and summer foods, showing universal dependence on food and drink.)

When little birds no longer find enough food, where do they go? Why do they fly in flocks? Could you find your way as they do? How do they learn? (It is always well to leave the topic at an interesting point with food for thought, and at a moment when the element of appreciation and wonder is prominent in the mind.)

DOMESTIC BIRDS AND PETS

What birds stay with us in winter? Discuss with the children their winter habits. What birds does the farmer always have

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with him? (If possible, take excursion to poultry farm. The care of chickens is profitable if it can be arranged. See Francis W. Parker Year Book, June, 1914.) Why does he keep them? Must he do anything for them? What does he feed the chickens? The ducks? The geese? The turkeys? (Take specific animals rather than general groups.) How much? How often? Where does he keep them? Does it make any difference what kind of a place they have to live in? How are the houses arranged inside? Why must they be kept clean? Where would you expect to look for the eggs? Can you tell when a hen has laid an egg?

Of what use are the chickens to the farmer? The ducks? The geese? Does he raise them for food or for eggs? Does it make any difference in the care they get? The food they eat?

What does the farmer do with his chickens? Ducks? Geese? Turkeys? Where does he sell them? How much does he get? For broilers? For eggs? What does it cost

him to keep them? Does he make any money on them? (Connection should be made with a specific case.) How much does your mother pay for chickens? For eggs? Where does she get them? Why does she like to get them from the country? Why does she want them fresh? Do they cost the same wherever she gets them? Why more at the store? What else does she get from the farmer? Why? How often does he come? (Possibly the following phase might be best discussed in the spring.) How are little chickens raised? Ducks? Geese? Turkeys? When are the hens set? How long does it take? Why must the eggs be kept warm? Does the hen never leave the nest? How were the little birds hatched? Do you know any other way of hatching? (Show the incubator and explain, if available.) How are little chickens cared for? Why not like baby birds in the nest? Little ducks? Why do we all like little chickens? (Bring them to school; visit children who have them.) How are they fed? Do they

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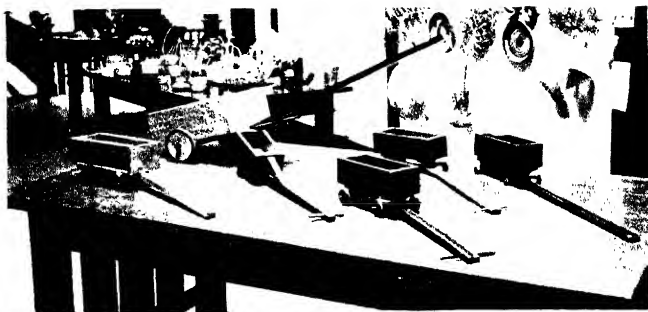
learn to peck and drink? Can your baby at home take care of itself as soon as the little chicken can? Can the little baby robin? How long before baby can eat alone? Walk?

What do ducks and geese like that chickens do not like? Why? Can you find anything on the duck that will help it in swimming? Do the ducks look as if they liked diving? Can you swim as they do? Dive? Would you like to learn? How does the duck learn?

Why do chickens not fly away and leave us? Ducks? Geese? What has happened to them? (Tell simply the story of domestication.) Can you tame them? What tame animals have you seen? Fed? If you were to keep chickens, what would you need to know?

PETS

What birds have you seen in cages? Did they sing? Did they seem happy? How must we treat them if we want to keep them? (This is followed by a discussion of care



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needed, food and drink, protection, etc., leading to the general topic of protection of birds. If possible let children have a pet to care for.)

PROTECTION OF BIRDS

Where shall we put our little bird? Why do people hang their birds up high? Can you teach kittens not to eat birds? Then how will you look after your bird? Is kitty good for anything? Do cats eat chickens? What else hurts little chickens? (Hawk, fox, coyote, etc., according to locality.) How can we protect them? By day? By night? Does the mother hen protect them? How? The father? Do the other little birds have troubles? What kind? (Discussion of *enemies* in the form of other animals: cats, birds, squirrels, etc.; *weather*: cold, wind throwing babies out of nest, etc.; *food*: scarcity, and so forth.)

How do the birds protect themselves? The robin? From enemies? (Fighting: making noises to frighten, hiding nests, misleading

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approachers, etc.) From weather? (Migration, downy feathers, sheltered places, etc.)

Special adaptations: (woodpecker's tail; bills adapted to getting food—the robin, woodpecker, sandpiper, etc.)

Flight: (flycatchers lighting upon food, etc.)

Feet: (for perching, swimming, etc.)

Legs: (for running—sandpiper, etc.)

These points are introduced to be used at discretion of teacher and according to environment. (Be careful in the use of the term 'adaptation.' Remember that an 'adaptation' is frequently a *result* of a *certain mode of living*, rather than a protective agent. We often erroneously speak of 'adaptation' as if there were a conscious purpose involved.)

What can we do for birds? Review of previous points mentioned.

Provide regular food and drink.

Keep off enemies by providing proper shelter.

Plant shrubs and trees they like for nesting and singing.

Take proper care of pets and poultry.

Get other people to help.

Stop wearing birds on hats.

Obey bird laws.

(Tell them about the Audubon Society and the bird laws. Provide as many conditions as possible for actual reaction along these various lines.)

IDENTIFICATION OF BIRDS

What birds do you know? What other? Where have you seen them? What birds have you seen around home? Downtown? In the park? On the farm? Where have you seen the most? In open places? In the streets? In the woods? Near water? When did you see the most? On the way to school? On the way home? At noon? Early morning? Late at night? When did you hear them? What did the robin say? The woodpecker? (Song, calls, whistles.) Did it sound pleasant or not? Can you tell the

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robin when you hear it? The blackbird? Does it always say the same thing? Does the robin? The cat-bird, etc. Would you like to learn the calls of the birds and be able to tell to which bird each call belongs? We shall try to do it. We must be very quiet and very patient when we watch for birds. (Let children practice calls and songs.)

Is there any way you can know a bird except by his call? How do you know a robin from a sparrow? A blackbird from a robin? A woodpecker from a robin? A bluebird from a blue jay? A duck from a goose? A duck from a chicken? A warbler from a sparrow?

Teach comparison between two specific birds; as well as description of any one bird. In this and similar ways bring out identification by size; color; peculiar markings; adaptations of feet, bill, tail; locomotion. (Take care to dwell only upon *most striking characteristics, contrasts and similarities.* At this age the finer distinctions must not be insisted upon. Pictures and

stuffed specimens may here be used, if necessary—for *identification only*—of birds already seen out of doors.)

Who will be a robin and get a worm out of the ground? A blackbird and walk across the room? A woodpecker and climb a tree? A warbler and fly in and out the branches? A chicken and peck? A duck? A hawk? A peacock? A rooster? Who will be a bird and make us guess which one by what you do? Who can guess what bird John was? Was it well done? Who else will try? What bird would you like to be? Why? (In this way the play spirit of the children can be utilized.)

We will watch for a bird to-day. When you want to watch a bird, be very quiet; watch carefully; if possible, get the sun behind you and the bird in front; half close your eyes; see what he is doing; how he does it; when he flies away, try to do what you saw him do. If he is singing, what kind of a song? Where is he? Does he sing flying?

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If getting food, what kind of food? Where? If flying, watch his wings and body; position of feet. If swimming, watch feet and body. Watch his movements in the tree and on the ground. What are his colors? Where? Larger or smaller than robin, sparrow or other bird children know? Tail longer or shorter by comparison with known bird? Bill, length and shape in comparison with some bill known.

(These directions must, of course, be worked upon discriminately and *gradually* as the occasion arises. It would be absurd to expect little children to remember them all in any given situation. They are grouped together merely to indicate the trend which cumulative observation is to take, and the habits to be cultivated during the progress of the season. The younger and the more immature the children, the less subtle must be the discriminations made.)

Example of possible use of unusual material. (Suppose a circus has come to town.)

THE OSTRICH

Would you like to tell about the big bird you saw at the circus? Or, who can make us think of the big bird you saw at the circus? (Let child strut, pose, etc.) What was his name? Could you draw a picture of him on the board? Try it. What did you notice first? (Long legs, long neck, small head, feathers, manner of motion, etc.) What does he need the long legs for? Shall I tell you about the home of the ostrich and how he lives? (Have story prepared in simple dramatic style; tell also about eggs and baby ostriches.) Do we use the ostrich in any way? How? How do we get the feathers? Does this hurt the ostrich? How are the feathers made ready to wear? Tell children about the ostrich farms in Florida and California. Why did the circus people have the ostrich? What do they feed him? What care does he need?

The outline form has been chosen in the following pages for several reasons. First,

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in order to give to teachers a perspective of the scope of the subject matter from which they may draw according to the needs of their children at any given time, and according to the exigencies of special situations. Secondly, because the field of nature experience is so extensive, and the points of contact between the child and his natural environment are so numerous that it would obviously be impossible to conceive of all the situations arising therefrom. Hence it has seemed best to indicate the scope of the material; to present rather fully, as under the heading 'Birds,' the method of procedure in connection with *one* topic; to call attention repeatedly to the chief aim—*the provision for child experience and activity in school life in such a way as to utilize these to the fullest extent and to create situations for the carrying of these over into unblocked creative channels* leading to continuous growth towards an established ideal. It is the teacher's task to keep free these channels and to provide for the opening up of new

ones as occasions arise. In the use of the outlines it will be necessary to keep these points constantly in mind and to apply one's knowledge of child life to making for the child the best connections and obtaining from him the most desired reactions. Outlines may easily become stereotyped and barren of fruitful results unless interpreted through the needs and spontaneous interests of the child.

OUTLINE FOR STUDY OF BIRDS

I. Relation of bird life as observed, to:— (This to be emphasized whenever there is occasion as accompaniment of other topics.)

1. Other animals.
2. Vegetation.
3. Weather conditions.
4. Home making.

(a) Use and pleasure to man.

(b) Man's responsibility to birds.

II. Habits of birds in the neighborhood.

1. Migration.
2. Winter habits.
3. Food getting.

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4. Home making.
- 5. Mating and nesting. Song.
6. Care of young.

III. Needs and adaptations of birds in the neighborhood.

1. Food.
2. Shelter.
3. Covering.
4. Protection.
5. Play.

IV. Identification of birds in the neighborhood.

1. Song or call or whistle. Variety, quality, expressiveness.
2. Color and strong markings.
3. Locomotion.
4. Size and form.
5. Food and manner of procuring food.
6. Locality—tree, ground, near water, woods, etc.
7. Nest—kind, material, location.

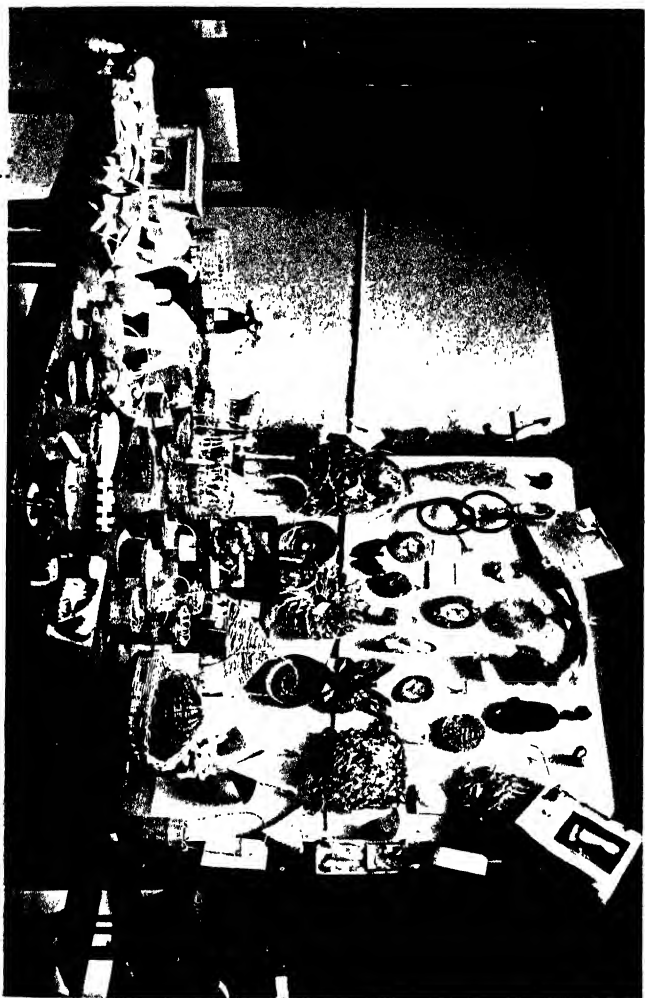
V. Special topics.

1. Domestic birds.
2. Pets.
3. The circus.

VI. Birds in song, art, story, poetry and games. (See special references.)

VII. Activities prompted by bird study.

1. Play activities:—being birds.



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2. Activities based upon notion of care and protection.
3. Constructive activities:—bird houses, feeders, fountains, etc.
4. Fine arts as related to bird study.

VIII. Bibliography.

1. Informational.
2. Esthetic, literary, imaginative.

NOTE.—It need hardly be said that literature of the very best forms a prominent feature of this plan of work. Little children appreciate largely—more largely than we realize. This is the time to stimulate their love of beautiful and good things and to develop life interests in them.

ANIMAL LIFE

Fall:—

1. Great profusion; then disappearance.
Kinds of animals; reason for disappearance; manner of disappearance.
2. Where the animals are found; what they are doing.
Have they any problems?
3. Why they go; where; what changes take place?
Migration; hibernation; winter habits; cocoons and chrysalids; how animals get ready for cold weather.
4. What do *we* do to get ready for cold weather?

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5. How did primitive man prepare himself? Specific illustrations.
6. Hunting seasons:—ducks, deer, rabbit, etc.
 - (a) What do we mean by hunting season?
 - (b) What do people hunt for? What kind of animals?
 - (c) This is a good time for third grades to study the fur trade and fur as an article of clothing.
 - (d) Why do animals need protecting laws? What are some of them? Bird laws. How can we protect them? Study animal family life and breeding of young.
7. The hunter's moon. Unusual phenomenon, introduction to interest in moon and stars.
8. Life cycle:—the butterfly and moth.
9. Pasturing of horses and cattle. Care necessary for approaching winter.
10. Calendar recording disappearing life and changes in temperature, length of day, etc., showing relation of one to the other.

Winter:—

1. Animal life out of doors as it presents itself in the neighborhood.
Systematic feeding of birds, squirrels, etc.

Animal tracks in the snow. Character, location, where they lead, how to follow, etc.

Animal voices and calls.

2. Pets and their care and comfort.

3. Domestic animals and their need.

Their care and comfort. Horses covered while standing. Proper shoeing, etc.

Their use to men. Their food, etc.

4. Animal products used in the home. Source; cost; difficulty in procuring.

5. Animals of the Zoo. (Kipling—Just So Stories and Jungle Books.)

6. Animals of primitive man already familiar. Relation of primitive man to wild and domesticated animals. (Stories of domestication.)

Spring:—

1. Watching and recording of returning animal life out of doors. The joy of it. What it means.

2. Recognition of calls, whistles, noises.

3. Family life, mating, nesting, care of young.

(a) Bird life.

(b) Farm life.

(c) Wild life other than bird.

4. Life cycles:—bird and chick; butterfly and moth; frog and toad. Watching developments; observation in native lair.

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5. Stimulation and response between returning animal life and returning plant life. Birds and trees; birds and the garden.
6. Significance of Bird day. (Bird day in literature.)
7. The raising of little chickens, ducks, turkeys, pigs, calves, colts. The differences in care needed; difference in time element.
8. The feeding of animals; the gathering of eggs; the Easter custom of dyeing, hiding and rolling eggs. Filling bird fountains. Observation of animals in their favorite haunts.
9. Calendar recording returning life.
(At the seashore there is, of course, quite a distinctive fauna and flora to be used.)

PLANT LIFE

Fall:—

1. The harvest:—at home, school, garden, farm and market.
 - (a) The joy of the harvest; work completed and crops ready.
 - (b) The labor of the harvest in its various forms.
 - (c) The fruits of the harvest; what they are.
 - (d) Home use of the fruits of the harvest, popcorn, pumpkin pie, biscuits, corn bread, preserved and dried fruit, cider. (Actually have children make some one of these.)

- (e) Exhibition of the harvest:—school fair, county fair; basis for selection for entering; basis for prizes.
 - (f) Excursion in connection with harvest:—to fairs, to farms, to nearest market, to home dealers, etc.
 - (g) Distribution of the harvest; following the crops to market; transportation; prices and cost of production. (Correlation with arithmetic.)
 - (h) The social side of the harvest; Thanksgiving and Hallowe'en; privileges and responsibilities. The early Thanksgiving. "Husking Bees."
 - (i) The harvest moon; beginning interest in weather phenomena.
2. The beauty everywhere of color, form, design; grouping; art work; collecting; portfolios and booklets; decoration.
 3. The cleaning and tidying process for winter. Cleaning up of gardens; raking up leaves; bonfires; the burning of weeds; reasons. Popping corn in the open.
 4. Provisions for reproduction of plants another year.
 - (a) Seeds and their dispersal.
 - (b) Pollenization and bees.

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(c) Budding and protection of trees and shrubs.

(d) Dropping of leaves. Storing of food.

5. Seeming adaptations of plants which keep off man ; animals. Adaptations of plants against inclement weather.
6. Parts of plants used by man ; specific examples.
7. The life cycle of the 'annual' plant ; specific simple examples.
8. Early frosts ; protection against ; maturing of nuts, etc.
9. Preserving and drying fruits ; making biscuits, corn bread, etc.

Winter:—

1. Storing fruits of harvest :
Silos, cellars.
'Apples, grain, potatoes, nuts, etc.
2. Early frosts ; heavy winds ; equinoctial rains ; protection against inclement weather.
3. The market ; storage houses ; prices. (Arithmetic.) Source of supplies. Middle men.
4. The home table ; the part that comes from far away.
5. Winter fruits and where they are grown. How we get them.
6. The greenhouse products. Trip to greenhouse.

7. Winter beauty in landscape.
Art work; utilization of material for decoration.
8. Care of plants and bulbs in room.
- 9. Christmas trees and evergreens.
10. Drying fruits; gilding nuts; stringing cranberries; popping corn and chestnuts.
11. Plants that are visited by animals in winter; for what purpose.
12. The plant-food that is good for our animals; that is used by animals. Feeding of cattle, rabbits, horses.
13. The food of primitive man; the kinds used; preparation; comparison with our foods.

Spring:—

1. Evidence of awakening life.
Flowing of sap; bursting of buds; green grass; early flowers, etc.
2. Study of early flowers in their haunts; storage of food in bulbs. Buds; observation of unfolding outdoors and indoors.
3. Visit to 'sugar bushes' and making of maple sugar.
4. Germination indoors; showing necessary conditions for plant life; variations in soil, etc. Try out simple experiments.
5. Gardening. Familiarity with simplest conditions; application of simplest agricultural principles.

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Raising of early matured vegetables and flowers.

Skill in manipulation of necessary simple tools.

6. Effect on plant life of early spring rains; late frost; heavy wind; sunshine.
7. Early odors in the air.
8. Beauty of color, form, design, grouping. The marvels of nature; leaves unfolding; butterflies emerging; the early blossoms.
9. The intimate intercourse between plants and animals; various purposes.
10. Similarity in needs of plants, animal and man.
The general rejoicing; nature's jubilee.
11. Calendar of returning life, recorded and illustrated.
12. Study of trees and bushes in relation to man and animal life.
Which do birds like? Insects? What birds?
What insects?
Uses of trees.
13. Significance of Arbor Day. Planting of trees, shrubs, etc. (Arbor Day in literature.)

GARDENING

Follow all instructions to the letter. For example, if the directions advise to plant one-half inch deep, do not plant two inches deep. The depth of sowing is very import-

ant and varies with every crop; therefore, follow directions.

Plan your lessons well. You and your pupils should know exactly what you are going to do, and how you are going to do it, every time you go into the garden. Consider also, that unless you keep the pupils interested and busy, all the time, order and discipline cannot be maintained. The most successful teachers are those who follow this advice. Organization is essential.

Keep the children busy all the time. They cannot all sow seeds or water at the same time, but they can take turns. The garden will supply enough work, if you know how to direct. Let them hoe, pick bugs, pull weeds, clean up, straighten garden edges, make labels, label rows, etc. Prepare yourself by reading all the garden books, catalogs, government and other bulletins that you can get hold of. Remember there is a great deal to be learned. You want the children to do the work accurately and to learn certain fundamental principles.

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Use the planting tables in the books for planting. Consider the ultimate size of the plant and the amount of room it requires at maturity.

Always place the tools back in their proper place, clean and in good order. *Do not let the children use tools for ball bats, shinney sticks, vaulting poles, stilts, etc. Do not let them play with the hose, watering pots or sprinkle one another with water.*

When you water, soak the soil well. Test the penetration with the finger or a stick. The soil wants to be wet to a depth of two or three inches at least. Do not dribble the water on the surface, but *soak the soil*. Use a nozzle on your hose. Do not wash out the seeds by watering immediately after planting. Soak the soil well the night before.

Do not crowd the seeds in the rows or drills. You waste your seed by so doing, for you will have to thin out your rows when crowded, in order to make room for the growing plant. Consider the ultimate size of the crop and sow accordingly. Radishes

are about an inch in diameter; do not sow them closer than that. Do not sow in dry soil. Firm the soil over the seeds with the hands. Rake some loose soil over the seeds with the hands to make a surface mulch and aid in ventilation.

Make a map of your garden according to scale. Plan your planting according to your map. Locate all the crops on paper, indicating crop, time of planting, distance apart of rows, size of beds, distance within rows, walks, etc. With very young children this work may follow the actual work out-of-doors. Older children should do this before planting. Plan to have all flowers at one end, bordering the walk. Plant similar kinds together. Do not plant tall kinds in front of low kinds, so that the light will be excluded from these. Select some crops that mature early for small children. In that case you must plan to plant something in their places before the season is over, so that the garden will be full, when the children come back for the harvest in the fall. Plant

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everything in straight rows running north and south. Do not plant in figures, etc. It is not good gardening and not good art.

In planning the garden, consider the following:

1. Is the plant hardy or tender? Early or late? When shall we plant?
2. Is it transplantable or not?
3. Preparation of soil for each crop.
4. Depth of planting for each crop.
5. Distance apart in the row. (According to ultimate size.)
6. Distance apart of the rows or hills.

Let the children take part in all processes. The entire area should be dug over, and while the ground is damp, it should be thoroughly fined with a rake, all stones and litter removed, then smoothed and levelled. Before planting it is well to let the children fine the soil with their hands. Cloddy, lumpy soil, soil that is rough and uneven, is not fit for gardening. If the soil is too wet, wait until it dries out. If too dry, soak well a night or two before you work it or attempt

to plant. Make your walks flat with a small gutter. Make the beds small enough so the children can get at them easily—without stepping into the bed to weed or work.

Sowing. In sowing the various crops, do not sow too deep or too shallow. If too deep, seeds may not germinate until late or not at all. If too shallow, seeds will be washed out or burned and baked under the hot sun. The general rule is that seeds should be sown at a depth of four times their diameter, though there are exceptions to this rule. Very small light seeds must be barely covered and protected with small light brush, light boards, pieces of bagging. These must be removed the first morning the seedlings appear.

In transplanting plants to the garden see to it that the ground is moist and choose a cool, cloudy day, if possible. Early in the morning is also a good time. Take up the plants to be moved with all the soil and roots it is possible to save, protect with paper, and transplant as rapidly as possible. Space individual plants far enough to allow room

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for best development. Set the plants deep enough, so the first wind will not blow them out; so the watering will not wash them out. Not so deep, however, as to bury parts which should be in the light. Spread roots out well and shake loose soil down among them, then *firm* the soil around the roots. Leave a depression around the plant so the water will run *to* the plant and not away from it. Water at once, soaking the soil well by repeated waterings. Protect the plant for a few days by placing an inverted pot over it; tip the pot by placing a stone under one side. Also snip off carefully a few of the older leaves. All of this care prevents an excess of evaporation and gives the plant a chance to adapt itself to its new environment.

The following kinds are selected for the primary grades because of the relative ease with which they can be raised; also, because some of them mature early, and little folks must see results of their labor sooner than older people. This is not true of all the crops selected, however. The children

should be thoroughly acquainted with these, and know the simplest principles of gardening. Label everything you plant, giving (1) kind; (2) variety; (3) date. Stake out your rows with stakes and string in order to get your rows straight. Plant a whole row before covering seeds.

VEGETABLES

Beets	Parsley	Bush beans
Popcorn	* Tomato	Lettuce
Radish	Carrots	Parsnips
Pumpkin	Onion sets	Salsify
* Cabbage	Turnips	

FLOWERS

* Sweet Alyssum	Ageratum	Nasturtiums
Marigold	* Balsam	* Snapdragon
Sweet peas	Calendula	* Petunia
Zinnia	California poppy	Cosmos

Plants marked * should be transplanted in order to insure the best results during the growing season. Others may be transplanted. Tomatoes must be protected from early frosts. It is well to do your transplanting not much before the middle of May,

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in order to avoid frost. Sweet peas are best in before the last of March; many people say, 'St. Patrick's Day.' (This for the latitude of New York, Chicago, Denver.)

The following books are helpful: L. H. Bailey: The Practical Garden Book, Macmillan Co. L. H. Bailey: Principles of Vegetable Gardening, Macmillan Co. L. H. Bailey: Garden Making, Macmillan Co. L. H. Bailey: The Horticulturist's Rule Book, Macmillan Co. Allen French: The Book of Vegetables, Macmillan Co. Bull. No. 94, U. S. Department of Agriculture: The Vegetable Garden. Bull. No. 255, U. S. Department of Agriculture: The Home Vegetable Garden.

(The author is indebted for most of the directions on gardening to Mr. H. Hochbaum, formerly of the Colorado State Teachers' College.)

Remember that gardening offers one of the best means for leading a normal life at school. It builds up physical and mental health, creates social situations which must

be met in terms of conduct, and yields definite results which give satisfaction and joy. It is also one of the most wholesome occupations in which children can share in the general movement of helpfulness for the common good.

WEATHER AS IT AFFECTS OUR LIFE

Weather is not only of universal interest, but no one can escape it. Everyone has a mental attitude towards the weather; shall it be from the beginning a happy, receptive one? It is the one universal, impersonal topic of conversation. It does much to color the background of our lives. Prolonged weather becomes climate; man is essentially dependent upon these physical forces in the routine of his daily existence. It is then most pertinent that some time should be given by children to an interpretation of weather conditions as they affect themselves and their environment. Thus it is an introduction to the interpretation of climate in its effect upon man's life.

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Fall:—

1. Early frosts.

Necessity of covering plants; starting furnace; the harvest; picking of fruit; ripening of nuts; pretty landscape in the morning; disappearance of animals. Character of day and nights when we have frost; effects of sun on frost; where it stays longest.

2. Heavy winds.

What winds bring rain, snow, fair weather, etc. Points of compass. Direction as seen by smoke, grass. Flying kites; dropping of foliage; warmer clothing; blowing of papers and dust indicates need for cleanliness; damage done by wind. Sailing boats. Making of weather vane; wind mills. (The Little Half Chick.)

3. Hunter's moon and harvest moon; beginning of interest in moon, stars, constellation. Position in sky; phases of moon. Sailing vessels by stars.

4. Shortening of days. Relation of sun and human beings.

Warmest at noon; changing position of sun; rising and setting; temperature; highest; change in thermometer; shadow stick; sundial; how people tell time by the sun without

a sundial. On which side of the house do flowers bloom the longest; why?

5. Mental attitude of cheerfulness and receptivity towards weather.
6. Excursions of many kinds before winter sets in.
7. Equinoctial storms.

Effect upon landscape; closing of doors and windows; necessity of cleanliness in entering houses; indoor amusements.

8. Preparation for winter.

(See Animal and Plant Life); buying of coal; getting of winter clothing; winter occupations starting in; less freedom and time out of doors.

Winter:—

1. Short days and cold weather.

Feeding of out-door animals which remain with us.

Home amusements.

Home lighting and heating. Ventilation, plumbing, etc. (See Social Experience.)

How to dress indoors and out. Value of cold baths.

Plants in south windows; turning to sun.

Reasons.

Taking sunny side of street.

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Continuation of study of sun, temperature.

Amount of coal used; care of furnace.

2. Snow and ice.—Uses.

Winter sports; sleigh riding; shovelling, coasting, skating, snow-balling.

Covering for vegetables in snow.

Freezing of water pipes less probable. Investigation of plumbing system. Experiments in expansion; in crystallization. (See Social Experience.)

Ice harvest for summer use.

3. Beauty of landscape.

Art work; use of winter material for decoration.

4. Eskimo life.

Spring:—

1. Early rains.

Spring rain and the farmer.

Thawing ground; starting sap in trees; starting growth in plants; 'sugar bushes.'

Bad roads; mud; care about house. Need for improvement; paving streets, making sidewalk.

Joy of play; paddling; mud-pies; molding of physiographic features—rivers, lakes, deltas, peninsula, islands, slopes, etc. (Third grade.)

Pleasure of ducks, geese, etc. Robin singing in rain. Birds' bath.

Forms of vapor under different conditions.

Recognition and significance.

Earthworms and rain. Robins, earthworms and rain.

2. Experiments in condensation and evaporation based on concrete experience.

3. Thunderstorms.

Teach enjoyment of; electricity, where do we use it; rainbow.

4. Early warm days.—Effects on us; on vegetation; on animal life.

Picnics; lesson out-of-doors.

House-cleaning time when doors and windows can be open and sun is shining; value of airing and sunning.

Fresh spring clothing.

5. Early spring flowers; bulbous roots.
6. Attractive weather charts all through year; continuation of topics started in fall.
7. Hard and soft water; effect on skin; clothes; tea-kettle. Source of supply.

MISCELLANEOUS

1. Soil—Best soil to play in—sand.

Worst soil to stick to feet—clay.

The leaves clinging to and mixing with soil.

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Good garden soil. Investigate and find out what is best combination in connection with gardening and germination of seeds.

Effect of different kinds of soil on seeds.

Experiments in germination.

Which soil holds water most? Longest? Experiments.

Application to growing of plants.

Soil that is too wet; too dry. Effect. Experience in caring for plants.

Excavations; house foundations, etc.

Difference in color, texture of soil. The element of beauty; of possibilities for growth.

Cracked ground in cold winter and dry summer.

Location in field of good and poor soil for growing purposes. Sand dunes and their vegetation.

2. Stones.—Collection of pretty colors, shapes.

Investigation of ant-houses and material used.

The pebbles of rivers, lakes, etc. 'Skipping' stones.

What can we use them for?

Boulders; fences made of material gathered from fields.

Why the farmer does not like stony fields.

Primitive man and his stone implements; flaking process, etc.

Crystallization. Precious and semi-precious stones. Jewelry. The prism.

3. Rocks.—Joy of climbing.

Use for caves, etc.; primitive man.

How and what trees and flowers cling to rocks.

Cracks in the rocks; how they get there.

Action of water, frost, wind.

Coloring of rocks; effect of sun and moisture on color; beauty.

Rocky foundations.

In river; effect on bathing, boating, swimming.

In garden; effect on labor and plants.

In city streets, etc.; blasting.

Building stone; kinds; identification in the field; qualities necessary. (See Outline on Shelter.)

Making soil from rocks.

Animal and plant life in rocks; fossils. What do they tell us?

4. Metals and minerals used at home and ways of using.—Gold, silver, coal, tin, brass, zinc, iron, steel, copper, aluminum, lime, mica, etc. Ammonia. Asbestos.

(a) Use, value, comfort and money.

(b) Source of supplies, suggesting labor and interdependence.

(c) Method of obtaining.

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- (d) Simple properties and distinguishing features. Why is one better than another for a specific purpose?
- 5. Materials made of inanimate nature and used in homes.
 - (a) Glass, cement, mortar, brick, plaster, etc.
 - (b) Silver polish, hand sapolio, bath soap.
 - (c) Powders used for bugs and insects; sprays for trees, etc. Where and how obtained? What substitutes could be used? Why important?
- 6. Literature. (A few suggestions.)
 - Pudding Stone. Nature Myths. Flora Cooke.
 - Pigs and Wolf. Folk tale.
 - Bible story of house built on sand and rock.
 - Camels and caravans in sand storms.
 - Fossils. Poem (Boller), The Petrified Fern.

LITERATURE AND PURPOSEFUL ACTIVITIES

THERE are included in this book suggestive bibliographies of poems and stories tabulating some of the material which has been found helpful and valuable in meeting the needs of primary children. The list is not exhaustive. It is hoped that it may be helpful and possibly a point of departure towards better things.

The plea for a more unified curriculum, a more rational mode of approach, a more scientific method of procedure in organizing the school life of our little children is growing in intensity. It demands that the experiences and activities of the children be given fair play; that in order to enable their reactions to be the best possible, they be permitted to deal with real situations in school as they do elsewhere and to profit by their rich social inheritance. Much of this social inheritance is expressed in art form, in

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painting, sculpture, rhythm, song, poetry, story and drama. These are as much the privilege of every child as are the more obvious elements of his social inheritance, the economic and industrial. They should be equally taken for granted. This thought has been incidentally expressed before, but it is so far-reaching in its effects that it deserves to be given expression for its own sake. So long as art expression is considered a luxury rather than a necessity, the lives of children and mature people alike must be more meager and limited, less resourceful, convincing and rebounding than the promise of their original nature and the projection of their social inheritance warrant or justify.

Literature deals with all phases of human experience; it is a source of inspiration; it lends zest and dignity to labor; it expresses man's attempt to interpret the phenomena of nature; it clothes general truths in allegorical garb; it shows human nature and nature in relation; it enters into every activity

of human life; it conveys ethical standards of conduct in impersonal setting, thus constituting itself a force in the initiatory steps toward improvement of individual, personal conduct by furnishing objectives to be realized.

Reading and literature are closely related in that reading, like oral language, is a vehicle by means of which literature is conveyed from generation to generation. *Herein lies the responsibility of using reading with small children as well as with older ones for the purposes of this transmission,* rather than for the manipulation of valueless material required of them until recently.

It is never too early to grow a taste for good literature. Is this not proven by the appreciation which even two- and three-year old children show for Mother Goose rhymes and simple, cumulative folk tales? Unless this stimulus is applied at an early age, a most valuable opportunity is neglected; it may never recur. A case illustrating this point is that of an intelligent man above

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the age of thirty, who had never read poetry and who, realizing this fact, could not compel himself into a fondness for and an appreciation of this form of literature.

It is in early childhood, not at a set time in an isolated period, but in close contact with all child experiences and activities, that the treasures of literature must be made accessible to the mind and heart, and by the process of absorption, as it were, be permitted to influence the life. The inheritance of literary treasures is so great, that only the best need be used. Even by the exercise of some elimination there is no danger of exhausting the supply, not though the life be one of four score years and ten.

The esthetic value of literature must never be lost sight of. Literature must never become primarily a device for didactic teaching. However, the ethical value of literature is great, not merely because it holds up to the child high ideals and some of the best creations of man's brain. The love of literature may easily become an

appetite merely, unless it becomes, as it were, part of the marrow of our bones. The opportunities for translating the ideals it presents into terms of human conduct are superior to the ordinary direct method because of the impersonal character of the appeal. To illustrate:—A group of children is studying the King Arthur legends, reading Tennyson and other versions imbued with the atmosphere of the times. In the process of representing the story, characters are chosen not on the basis of who can render the best ‘performance,’ but on the basis of who will derive the greatest benefit from such an impersonation. Suppose a shy, loose-jointed, slouchy boy is selected for the part of King Arthur. Under the demand of the part, the boy begins to stand erect and to carry himself with a measure of the dignity required. If he does not, his companions remind him of his deficiency not in his private capacity, but as representative of the character chosen, bringing about the desired effect. Here is the teacher’s opportunity in private

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to offer a fruitful suggestion: "You did splendidly. Do you realize how well you stood, spoke, looked? How you made the others play up to your part? How easy it would be to do this every day? How much it would help you in class, in getting a job, in business? etc., etc." Thus an ideal conceived by impersonation from literature may become fruitful by changing for the better many personal habits. In this manner does dramatization become educational. Illustrations of this type might be multiplied indefinitely.

Here is another suggestion. Do not insist continually upon children's 'telling the story back' to you as a language exercise. This practice vitiates the main purpose of a good story. Let the children live the story, let them play it, creating their conversation as they go along or using that of the book. They will get all the language exercise necessary out of this and get it more sanely. Also, if you wish the story retold, have the child retell it as one character in the story, tell-

ing only what has come within the experience of that particular character. By thus representing one at a time the main characters, you will 'get back' the essentials. You will get a great deal more. Instead of a parrot-like repetition of the story, you will get from every child original thinking, a projection of himself into a new situation, a reconstruction of the story from a different angle and an exercise in discrimination and judgment worth immeasurably more than mere reproduction. Applied to the story of The Wolf and the Three Little Pigs, this would mean that the first two little pigs would tell their experience up to the time where the little house of straws and sticks tumbles in upon them, their conversation ending in a squeal as they are attacked by the wolf; the wolf would tell his tale up to the point possibly where he decides to climb down the chimney, ending with a howl as he falls into the water; the third little pig would tell his story from the meeting of the man with the bricks to the happy con-

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clusion of the story. Such constructive story-telling has a distinct value in itself and paves the way for the telling by the children of wholly original stories.

Tell or read the stories and the poems to the children at the proper time; love them and render them well. There is no excuse for poor or hurried presentation of literary gems. The children will love them because you do and because of their intrinsic appeal. They will without compulsion learn some gems; they will attempt to create some of their own; they will live the stories in play and understand the characters and situations by so doing. Their experience and their power of appreciation will grow. At the same time their knowledge of the meanings of words and their usage of language will improve beyond any goal attainable through formal, set language exercises.

Language is a means of communication, a social achievement. It is as much a means of stimulating thought and action in others as it is an avenue for self-expression. Hence

its function is primarily the transmission of thought. This interpretation of language should ever be in the mind of the teacher, because upon it depends her treatment of language in the schoolroom. In order most easily and adequately to produce thought and action in others, certain language forms have from time to time been accepted for universal usage; for this reason these correct and choice forms are taught in the school. To achieve this goal is always, however, merely a means to the larger end; it should be treated as of secondary importance.

All of the children's interests, activities, and contacts find expression through oral and written language as well as through other forms of expression. The same principle underlies the learning of language, which is at the basis of all learning. Let us state it again.

The children's activities, interests and contacts furnish the motive which prompts expression in oral and written language.

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Under the pressure of this vital impulse, language is more fluent, more spontaneous than under any external compulsion; greater effort is made by the children to convey exactly their meaning and to bring about the desired conduct on the part of others. The need for proper expression is more keenly felt and a greater willingness to cope with and overcome errors results. The gain includes a minimum amount of drill necessary to overcome errors, a maximum amount of improvement in language, an increase in time available for the real live issues at hand. (Read J. Dewey, *Interest and Effort in Education*.) One of these live issues is the love and appreciation of beautiful literature.

THE 'FORMAL SUBJECTS' AS PURPOSEFUL ACTIVITIES

I. THE strength and value of the claim admitted and illustrated.

In a plan of work as outlined in this book the claim of the so-called 'formal subjects' becomes at times very insistent. It is perhaps more insistent here than in a more traditional program because of the fact that these 'subjects' function in answer to a need inherent in the situation; that without them the desired experience cannot be complete.

So important is this functioning of number, reading and writing in experience, that reference has been made to it again and again. In the chapter on the purpose of the book, attention has been called to the necessity of now and then placing the emphasis on reading; the program allots two periods per day to these activities; the illustration showing the difference between problems and projects has been chosen from the field

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of reading. Throughout the chapters on social and nature experience allusions to number, reading and writing have indicated ways of supplementing and enriching experience through these channels of expression.

In order still further to illumine the relation of these subjects of the curriculum to the entire scheme of work, the unit of social experience previously described has been drawn upon for data. Very frequently number, reading and writing, or any two of these, enter into the same experience, so that it becomes difficult to draw a sharply dividing line. The following examples relate number, reading and writing to the unit of social experience referred to:

Number:—

1. In becoming acquainted with the children's families one factor emphasized was the difference in numbers; counting and comparison of numbers within the range of the members in families was resorted to. It

led to number combinations as high as nine.

2. In the letter writing and letter carrier episode, the question of letter postage arose. The playing of 'post office,' selling stamps, learning about first and second class mail and the present differences in price of first-class mail for distance and domestic or foreign mail proves a profitable topic in number.

3. Constructive activity always involves measurements and elements of accuracy and comparison. So the size of the tables and chairs made, needs to be determined and the proper pieces prepared and fitted together.

4. Marketing involved the elements of actual cost, of ratio of the size of the family to the amount needed. Some of the children did much of the buying for the family and had quite a background of common experience.

5. Collections made by the class for Liberty Loan Bonds were counted. The purchasing of war stamps and certificates can be encouraged in connection with the move-

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ment for saving and conservation. The simple bookkeeping which this kind of work involves carries with it the need for number concepts and for writing and reading. Some valuable lessons on the proportionate expenditure of allowances can be taught little children through their own pennies.

6. Playing 'store' in school with articles furnished by the children, with real money, at real prices was a favorite occupation and gave opportunity for making change.

Reading and Writing:—

1. The nursery rhymes, involving much repetition, can be used in reading as are the Mother Goose rhymes in some of the attractive modern readers.

2. Miss Dopp's primer, Bobby and Betty at Home, supplements well the study in social experiences.

3. Action games, similar to those in Summers' thought reader, can be played with home activities. The children themselves suggest many of these.

4. In marketing or shopping, lists of articles needed can be made out as is done in the ordinary home. Receipts and slips made out by trades people are used in school to check up articles needed in the home.

5. Letters going to the mail box must be properly stamped and addressed, otherwise they will not reach their destination. What is the 'proper' way? Is there also a 'proper' way for the inside of the letter? Simple invitations to social functions, little notes to sick friends, requests for material needed from outside sources could be composed by the children and sent.

6. Gardening involves every now and then the use of reading, writing and number. As a matter of fact, there are few activities naturally pursued by children, which do not in some way make use of these avenues of expression.

There is no opposition in the curriculum between the teaching of the content and the tools which assist in its manipulation. Un-

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der the stimulus of properly motivated interest they supplement each other, economizing and concentrating effort and producing more adequate results. In this dovetailing of forces, number, reading and writing become strong agents in the formation of good mental habits, and realize their full educational value. *The amount of skill to be developed in the use of any one tool at any given time must be equal to the difficulty felt in each specific instance in overcoming the obstacle incurred in the problem under consideration, at the time that obstacle arises; taking for granted, of course, that the problem is suited to the needs of the children working upon it.* Underdevelopment of skill hampers progress by the discouraging results it produces and by the inability it involves to approximate visions or ideals; overdevelopment of skill places the emphasis at the wrong point and makes of primary significance what should be of secondary importance.

Scientific standards of measurement are an aid to teachers in keeping the balance between content and tool, providing always that the true significance of the scientific test *as a means to an end* is held in mind. The scientific test is helpful only in so far as it checks and evaluates for purposes of proportionate progress; never as an end in itself. Where the test makes it feasible for children themselves to compare their results with those previously achieved—as is the case in the handwriting scales—the scientific standard has the additional value of functioning directly in the experience of the children by enabling them to become conscious of their increase in proficiency without the help of the teacher. When scientific tests reach that measure of perfection where they will truly interpret qualitative progress as well as quantitative results, their value will be greatly increased. In the meantime, one of the judicious uses to which they may be put is to ascertain whether the tools used in education—such as number, reading and writ-

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ing—are getting fair and proportionate representation in a program devoted to growth, to child experience and activity.

II. Reading, the acquiring and stimulating of thought.

Ideally, reading should become one of the normal child activities at the moment when the child wishes to acquire, for himself or for others, thought from the written or printed page; for this is the accepted function of reading in human life. It is probable that this moment will in our country in a majority of cases come to children at a comparatively early age, because of the large amount of reading material abroad, and because of the importance attached to reading by older people, both of these factors acting as unconscious stimuli to the naturally imitative child.

In order to direct this unconscious stimulation into the best channels, the child should be surrounded by much of the good literature available in picture and story books.

By knowing such books to be a part of everyday life, by being read to, by observing others, the child will realize that much that he wants can be gathered from this source, and he will learn to read easily in his effort to help himself. Proper motivation for reading, constant access to literature that is worth while, skillful manipulation by a helpful teacher, are three of the most important factors in the economy of time and effort, and the adequacy of results in the teaching of reading.

Under existing conditions not every teacher can carry to its limits the ideal plan. She can, however, surround the child with attractive material which will make the appeal; she can, moreover, provide for motivation. She can see to it that reading shall be used in school life as are oral language, representative play, constructive activities and other forms of expression.

Any project that is occupying the children intensively will at some time need to find ex-

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pression through the medium of written language, or the printed symbol used in reading. By proper association of thought with symbols, the blackboard can become a powerful aid, recording by a casual word or an explanatory sentence the life of ideas in the classroom. This life of ideas draws upon the resources of social and nature experience, of play, of constructive activity, of literature, of everything in fact, which the child touches day by day; hence the possibilities of teaching reading in these connections are great.

The dramatic approach to reading through folklore and games carries a strong appeal; other means need not be neglected. A few suggestions are presented to illustrate the general appeal to reading of the entire field of study.

1. Jingles with element of repetition are valuable.

2. Representative play furnishes opportunity for identification; for instance, life in camp may result in sign posts directing to

'camp,' 'tent,' 'mess house,' 'fire.' These may be some of the labels used.

3. Lists of foods used for breakfast or other meals can be made previous to going marketing.

4. Pictures can be collected, picture books made and explanatory labels attached.

5. The need for the writing of date, day of the week, month, will often arise.

6. Need for names and addresses of children will appear.

7. Results of excursions provide for group diaries. So also do calendars of weather and out-of-door life (disappearing and returning).

8. Procedure in experiments performed with results achieved, when recorded, furnishes a profitable summary for the work done.

9. Directions for constructive activities, games, etc., can be given through the process of reading or writing. Daily bulletins of news may be handled in the same way.

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10. Simple bookkeeping of class expenses, war stamp purchases, individual savings, or thrift clubs, necessitates reading or writing.

11. Games of various kinds may be played, similar to those mentioned in the Summers' action reader.

12. Reading may become as natural and joyous an activity as any other, if placed on the same rational basis. Any legitimate and successful method used in the teaching of reading ordinarily will be acceptable in this scheme. Several reading lessons composed by children are added as suggestions.

Reading lessons composed by children of first and second grades illustrating experiences in the field of nature and literature.

THE BLACKBIRD

I am a red wing blackbird.

I am not the blackbird that was baked in the
pie.

I can walk.

Do you know where my nest is?

It is not in the tree.

It is in the high grass.
It is a deep nest.
Why is my nest so deep?
My eggs have black speckles.

I have a red head.
I have a white breast.
I have a black back.
I have black and white wings.
I have a black tail.
My tail is stiff.
My bill is black.
My tail helps me climb.
I peck the trees.
I do not sing.
Do you know me?

HIAWATHA

Have you ever seen a woodpecker?
I will tell you how he got the tuft of red
feathers on his head.
Nokomis once told Hiawatha to go and
find the great Pearl-Feather.
It was he who sent the white fog.

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It was he who sent the fever to the children.

Hiawatha found him in his wigwam.

He fought with him all day, but could not kill him.

Suddenly he heard a little woodpecker in the tree.

This is what the woodpecker sang:

"Aim your arrows, Hiawatha, at the head of great Pearl-Feather.

There alone can he be wounded."

That is how Hiawatha killed the great Pearl-Feather.

Then Hiawatha called the woodpecker from the tree.

He stained his tuft of feathers red with blood, because he had helped him.

That is how the woodpecker got the tuft of red feathers on his head.

INDIAN STORY OF A STAR

There was a star.

It fell from the sky.

It fell to the earth.

It could not get back.

So the star wandered about the earth.

It grew lonesome.

It said, "Where shall I live?

I will go where people can see me.

They were glad to see me in the sky.

They will be glad to see me here."

At last the star came to a pond.

Some white water lilies were growing there.

The star said, "This is the place for me.

I shall live in the water lily."

Have you ever seen it there?

INDIAN STORY OF MICHABO

Michabo was a great Indian chief.

He loved the mountains.

He loved the prairies.

He smoked a great peace pipe.

Sometimes he smoked it in the mountain.

Sometimes he smoked it on the prairie.

The smoke rose into the air.

The smoke covered the mountains.

The people saw it.

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The people said, "It is haze."

The people said, "It is Indian summer."

INDIAN STORY OF THE ROBIN

There was a little Indian boy.

He was eleven years old.

He wanted to be an Indian chief.

He wanted to do something for the Indians.

His father said, "Can you live all alone?

Will you not be afraid?

Can you live alone and not eat?

All Indian chiefs must do that."

The little boy said, "Yes, father,

I can, I shall not be afraid."

So the father built a wigwam.

He built it in the woods.

Then he went away.

The little boy was all alone.

He was lonesome.

He was hungry.

But he was not afraid.

The father came every morning.

He looked at the little boy.

Then he went away.

One morning the father came.
The little boy was not there.
The father looked all around.
There was a little robin on the wigwam.
The robin sang, "Here I am!
I shall fly to the Indians.
I shall sing, 'Cheer up!
That will help them.
Good-by, father! Cheer up, cheer up! "

Reading lessons composed by the children illustrating results of excursions taken and experiments performed. All the leaflets were read with keen relish:—

We went to the vineyard.
The woman cut bunches of grapes.
She earned one dollar a day.
She worked nine hours a day.

First we washed the grapes.
Then we took them off the stems.
We boiled them ten minutes.
Then we put them into Mrs. Nichols' jelly bag.
We let them drip all night.

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The next day we boiled the juice again.

The scum came to the top.

Then we put in the sugar.

We boiled it five minutes more.

We put it into the jelly glasses.

It cooled off and was stiff.

We went to a farm.

The farmer showed us the corn hung up
to dry.

The farmer showed us his cows.

He showed us his potatoes.

He thrashed some rye for us with a flail.

He fanned some rye with a fanning
machine.

The grain came out on one side.

The chaff came out on the other side.

We saw a little calf.

We saw pigs, too.

We saw ducks and chickens.

We saw oats and wheat in the bins.

There were some farm horses.

There were many corn stalks.

We weighed two pounds of peaches.

We weighed half a pound of sugar.

We weighed a quarter of a pound of water.

Then we put the peaches into hot water.

Then we put the peaches into cold water.

Then we took off the skin.

Then we boiled the sugar and water.

We made syrup.

We put the peaches into the syrup.

We boiled the peaches five minutes.

Then we put them into a quart jar.

They look good.

CORN-BREAD

Take one cup of milk.

Take one-half cup of sugar.

Take one cup of flour.

Take one egg.

Take one cup of cornmeal.

Take a pinch of salt.

Take one cubic inch of butter.

Take a teaspoonful of baking powder.

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Beat the egg.

Melt the butter.

Mix the butter, milk, sugar, egg and salt.

Stir well.

Put in cornmeal, flour and baking powder.

Stir well.

Grease the pan.

Bake well.

III. Phonics. The tool for reading.

After a number of weeks, when a certain facility in reading has been gained and a reasonable vocabulary acquired, some of the words learned may be used as basis for ear training and phonics. By this time the children have discovered that reading has value for them; they have been surrounded by some of the attractive books published at the present time, and they have begun to realize that, in order to use them, they must become able to help themselves. This is the time for the teacher to present ways and means to this end. This order of procedure

is in line also with the best psychological opinion.

The value of ear training, the appreciation of sounds and clear enunciation must be emphasized by means of the best methods known to the educational world. Many of the words learned in the reading make a good introduction to the teaching of independence in 'word getting,' and to the 'word families' which are a helpful point of departure for acquiring many other words needed. The work in phonics should be assigned consciously by the teacher to its proper place, it being the tool necessary for the perfection of reading, with which reading it must never be confused. Games are of large value in the teaching of phonics.

There is every reason for using all educational resources accepted as sound in the teaching of phonics, in order to reach with the least expenditure of time and energy that independence in the acquisition of new words which the child requires to be a good reader. The points here emphasized are:

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(1) The postponement of phonics until NEEDED *as a tool* for self help. (2) The distinction in thought and separation in time, on the daily program of reading and phonics. (3) The use of methods for teaching phonics in line with the best thought of the day. (4) The *subordination of phonics as a tool*, or a means to a larger end, to the more important process of reading. (5) The approach to phonics through channels already opened by the child's own interests. (6) The utilization of the child's love of play and games in the method selected to teach phonics.

IV. Writing, a means of communication.

Anything that is a part of the child's experience in school life may function in his written expressions, providing only, (1) *that he has something to express*; (2) *that he wishes to express it through the symbols used in writing*; (3) *that the mechanics of the process are not beyond his muscular and nervous control*. In written expression

again the child's motive should be the dominating factor in the situation. With this in mind, the thoughtful teacher can grasp many opportunities for guiding the children along this avenue of expression. Unless used in this manner, written expression has no place on the program of any grade; only thus can it be what it should be, expression of thought for the satisfaction of one's self, or the benefit of others. Why should little children be forced into the mechanics of writing, unless they have in their minds something they wish to convey to others through this channel?

Those of us who are placed in a position where we *must* teach writing, may be reassured by the fact that most children will wish to write as they wish to read at a reasonably early age and for the same reasons already stated. Hence the question largely becomes one of rationality in approach and method, such as has been suggested in connection with the teaching of reading.

As to method:—The word should be writ-

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ten upon the board in large well-formed letters. It should be erased before the child writes it; the limiting effects of *copying* in the early stages are seen in the lack of independence and the absence of freedom of movement, which is one of the first essentials in learning to write. When necessary, tracing on the blackboard may be resorted to as a preliminary step in order to acquire muscular control and a sense of form. This should be done only in cases of extreme need; the teacher may also guide the hand and arm for the same purpose. The teacher may write much and freely for the children; imitation plays an important part in this work and the unconscious feeling for rhythm and motion acquired in this way is a great help. Attention should, however, not be centered upon the movement, but upon the finished product. This is in line with modern psychological thoughts. The pattern must also be good, because of the imitative quality of the child. Paper and pencil should not be used at all until considerable freedom of

movement and skill in producing form have been attained upon the blackboard. Freedom of movement is more important than speed. Large, unruled paper and thick pencils furnish the necessary material, when the time for this change has come. As to form, it should be stressed only when interfering with legibility or when the result of carelessness; it should not, in the primary grades, be an end in itself, because of the fact that it will then interrupt the true function of writing, which is the expression of thought.

In the primary grades, children's attention should never be called to the mistakes they have made in writing; instead, the wrong form should be erased, the word rewritten by the teacher, and special emphasis placed upon the portion presenting the difficulty.

SUGGESTIONS FOR WRITTEN WORK

1. Pictures mounted and used for various purposes can be labelled by the children. This applies not only to the field of nature

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experience, but to every other field of activity. For instance, in playing store, in gardening, in camping, in reproducing phases of primitive life, the various names may be written for purposes of identification. In camping, for instance, we may find 'tent,' 'spring,' 'woodpile,' 'bed,' etc., written in large letters and attached in the proper places.

2. In dramatization of stories the characters may be written on the blackboard by the children opposite their names. For instance:—

hen	Alice
cat	John
rat	Mary
pig	Louis

3. In impersonation of birds, or animals, as suggested elsewhere, children may write:

I am a ———. (Whatever the bird.)

Who are you?

Can you ———? (Whatever the action.)

Later on the children may write descrip-

tions of themselves as representing certain characters to be guessed by others. Any number of variations can be introduced.

4. Simple invitations can be written and illustrated for various social purposes.

5. Children can record excursions or experiments made, or reproduce conversations worked out for dramatic purposes. A few samples of the former are here reproduced. They were written upon the blackboard upon the *return from an excursion*, printed, and read by the children.

6. The calendar suggested necessitates a certain amount of writing.

7. Simple messages to sick friends, to Santa Claus, for birthdays, for materials needed may introduce the letter writing.

8. The gardening project furnishes opportunity for number, reading and writing. The labelling of rows where seeds have been planted; the cost of seeds and plants; expenses of tools used; calendar of planting, progress, harvesting; the entries for the school fair; prizes awarded, etc. One class

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worked out an interesting total of the expenses of a forty-acre campus for the year with the result that more respect and more co-operation became evident in the treatment of the campus.

9. Recipes worked out in connection with harvesting and with excursions to farm and country involve number, reading and writing; records of experiments performed do the same; records of excursions are of interest to children. A good opportunity is here afforded for giving free scope to the children's interests, to cultivate a feeling for essentials, and to initiate habits of continuity and coherence.

10. The keeping of chickens (as suggested in the F. W. Parker Year Book for 1914) necessitates reading, writing and number. The care of other pets may suggest the same.

11. Daily bulletins recording data of interest may be posted.

In every case writing should be a normal expression of thought, just as is speaking,

drawing, modelling or any other form of expression. The process of learning to write is very complex, as is also the process of learning to read. Modern psychology holds that because of the function in life of these so-called formal means of expression, the use of the symbols is more readily acquired under the stimulus of interest in the content or thought material which they represent. This is the argument in favor of beginning with simple words as wholes rather than with letters and parts of letters.

Individual reports written upon the blackboard by children of the advanced first and the second grades. These reports were the result of out-door observation, of a discussion of the story, *The Birds of Killingsworth*, and of impressions of the Massachusetts bird law.

Some birds are pretty. If you hurt them, you will have to pay twenty-five dollars.

Charles Arms.

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The birds said, "Do not shoot us. We will sing for you. We will eat the bugs."

Charles Gilchrist.

The birds said, "Please do not kill us. We will sing for you. We will eat the bugs that eat the flowers up. Girls look pretty maybe without having birds on their hats." It is \$25 to kill a bird.

There was a place where they killed birds. The birds said, "Do not kill us. We will sing for you if you do not kill us."

The birds begged the people not to kill them.

Mabel.

The birds said, "Please do not shoot us."

Kenneth.

No one must kill any birds.

Waldo.

“We will sing for you, please do not kill us.”

Margaret.

The people used to kill the birds.

The birds begged the people not to kill them.

Jeannette.

Massachusetts was killing all the pretty birds. Some were song sparrows and different kinds of birds.

Alfred.

There is going to be a committee and not any of the birds are going to be killed. If they are, the people have to pay \$25.

Elliott.

The birds told the people not to kill them.

Carlton.

We are not to kill the birds. Pretty little birds do not have to be killed to make the girls any prettier.

Oriana.

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There were some people, and they wanted to kill all the birds. The birds didn't want their friends killed.

Jeannette.

The birds said, "You girls are pretty enough without feathers on their hats, and birds, too."

Helen.

The birds came out and said, "Oh, please do not kill us. We do not like to be killed."

The people in some states have laws not to kill birds.

Gordon.

There were some little song birds.

The people wanted to kill them.

But I don't think they will.

Ned.

The leaves have come out.

Our little tree has some leaves on it.

It has big leaves on it.

Elliott.

In the apple orchard there is a bird's nest.

Alfred.

There is a bird's nest in our maple tree.

It is a robin's nest.

It is woven high and very well.

We can't see into it.

The leaves are in the way.

Margaret.

I saw a bird's nest.

It is a robin's nest.

The robin laid some eggs.

Jeannette.

The leaves on our poplar trees are almost
all out.

Kenneth.

The poplar trees in front have many
nests.

They are last year's nests.

Most of the nests are made of straw.

Chas.

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I saw a jack-in-the-pulpit.

I have a jack-in-the-pulpit at home.

I saw a bird's nest.

I saw a blue jay.

It was flying for the tree.

Chas. A.

I saw some cherry blossoms and some tulips.

I've seen some nasturtium blossoms.

All of the poplars are in blossom.

All of the poplars are very pretty in blossom.

I saw some boys climbing up a tree.

They were trying to get a bird's nest.

A man told them not to.

Virginia.

My brother saw the rainbow and I didn't.

He was down at Harry's.

We have a cherry tree.

Helen.

I saw an orchard oriole.

He had a yellow breast.

Jeannette.

Our cherry tree is blossoming.

Waldo and I sometimes watch the birds
fly out of their nests.

Gordon.

The cherry tree has come out.

Carlton.

We have two cherry trees.

One has blossoms on it.

The other has little green balls.

They will be cherries.

Oriana.

CONCLUSION

THE closing thought of the book may well refer back to the opening pages, where the guiding purpose has been set forth.

Although the character of the medium in which the plan is cast demands that chapter follow chapter, there is no implication of any *serial* order in the working out of its parts. With the children acting upon their environment and being acted upon in return, expressing themselves at one time through one channel, at another time through a different one, modifying their experience and changing their points of contact—the outcome of their growing process at any given time is embodied in a bit of tapestry woven with many threads of varying color into a coherent whole. This process of growth continues as long as there is life, hence the possibility of continuous give and take, of constant reaching out, of steady expansion.

The plan here presented is ethical because

it is unified, because it stimulates to and provides for sharing with others, because it places motive for action within the children, tends to eliminate waste and educates to increasing self-control; it also impels to action and thus has a direct bearing on daily conduct. In its possibilities for establishing a nucleus of good habits it becomes dynamic. The further application of the principles involved must be left to the responsibility of the individual teacher.

BIBLIOGRAPHY

THE accompanying bibliography includes a selected list of books. The basis for recommendation has been:—

1. Material found helpful as source for the teacher in carrying out the work.
2. Material accepted as desirable for the use of children.
3. Material found valuable in the construction of the book.

For purposes of convenience the bibliography has been divided into two parts. Part one lists some of the books found most helpful in carrying on the various phases of the work. Part two deals with a more specialized selection of stories and poems used in connection with specific topics. It indicates the kind of help each teacher can give herself in listing material collected from many sources.

PART ONE**I. GENERAL**

Dewey, J., Reasoning in Early Childhood, Teachers' College Record, January, 1914.

Child and Curriculum, University of Chicago Press.

The Schools of To-morrow, Dutton Co.

Interest and Effort in Education, Houghton, Mifflin Co.

School and Society, University of Chicago Press.

Moral principles in Education, Houghton, Mifflin Co.

Cubberley, E. P., Changing Conceptions of Education, Houghton, Mifflin Co.

McMurry, F., Elementary School Standards, World Book Co., Yonkers.

How to Study, Houghton, Mifflin Co.

Tanner, A., The Child, Rand, McNally Co.

Forbush, W. B., Guide to Childhood, American Institute of Child Life.

Terman, L. M., The Hygiene of the School Child, Houghton, Mifflin Co.

Hoag and Terman, Health Work in the Schools, Houghton, Mifflin Co.

Key, E., The Century of the Child, Putnam.

Payne, G. H., The Child in Human Progress, Putnam.

204 PROJECTS IN THE PRIMARY GRADES

II. PLAY

Lee, J., *Play in Education*, Macmillan Co.

Johnson, G. E., *Education by Plays and Games*, Ginn & Co.

Curtis, H. S., *Education Through Play*, Macmillan Co.

Wood, W., *Children's Play and Its Place in Education*.

Bancroft, J. H., *Plays and Games*, Macmillan Co.

Newton, M. B., *Graded Games and Rhythmic Exercises*, Barnes.

III. RHYTHM AND MUSIC

Hofer, M. R., *Children's Singing Games*, Flanagan Co.
Music for the Child World, Sumney.

Hill, P. S., *Song Stories for the Kindergarten*, Sumney.

Smith, E., *Songs for Little Children*, Milton Bradley Co.

Gaynor, J. L., *Songs of the Child World*.

Bremner, K., *Book of Song Games and Ball Games*, Barnes.

Surette, Th. (Editor), *Rote Songs*, Boston Music Co.

IV. INDUSTRIAL ARTS

Russell and Bonser, *Industrial Education*, Teachers' College, New York.

Dopp, K., *The Place of Industries in Elementary Education*, University of Chicago Press.

V. ART

- Hofer, M. R., *The Christ Child in Art*, Sumney.
Huell, E. M., *Child Life in Art*, Page & Co.

VI. CHILDREN'S READING

- Olcott, F. J., *Children's Reading*, Houghton, Mifflin Co.
Field, W. T. *Fingerposts to Children's Reading*, McClurg.

VII. READING

- Laing, M. E., *Reading*, D. C. Heath & Co.
Huey, E. B., *The Psychology and Pedagogy of Reading*, Macmillan Co.
Klapper, P., *Teaching Children to Read*, Appleton.
McClintock, P. L., *Literature in the Elementary School*, University of Chicago.

VIII. SOCIAL EXPERIENCE

- (For stories and poems see special bibliography.)
Elementary School Teacher, Chicago University Press, May, 1906. Social activities in the first grade of the F. W. Parker School.
Waterloo, St., *The Story of Ab*, Doubleday, Page & Co.
Dopp, K., *The Tree-Dwellers*, Rand, McNally Co.
The Early Cave Man, Rand, McNally Co.

206 PROJECTS IN THE PRIMARY GRADES

The Later Cave Man, Rand, McNally Co.

The Sea People, Rand, McNally Co.

Wiley and Edick, Lodrix, the Lake Dweller, Appleton Co.

Children of the Cliff, Appleton Co.

Boas, F., The Central Eskimo, Bureau of Ethnology, Smithsonian Institute.

Schwatka, F., Children of the Cold, Educational Pub. Co.

Andrews, J., Seven Little Sisters, Ginn & Co.

Each and All, Ginn & Co.

Hall, J., Weavers and Other Workers, Rand, McNally Co.

Wade, H., The Little Cousin Series, Page & Co.

Starr, F., The American Indians, D. C. Heath & Co.

Fynn, A. J., The Indian as Product of Environment, Little, Brown Co.

Snedden, D. S., Docas, the Indian Boy, D. C. Heath & Co.

Farrand, L., Basis of American History, Harper Bros.

Shaler, N. S., Story of Our Continent, Ginn & Co.

Carpenter, F., Geographical Reader, North America, ch. 39, American Book Co.

Schillig, Four Wonders, Rand, McNally Co.

Chamberlain, J. F., How We Are Fed, Macmillan Co.

How We Are Clothed, Macmillan Co.

How We Are Sheltered, Macmillan Co.

IX. NATURE EXPERIENCE

(For special references on birds, plants and weather
see special bibliography.)

Bailey, L. H., *Nature Study Idea*, Doubleday, Page &
Co.

Principles of Agriculture, Macmillan Co.

Principles of Vegetable Gardening, Macmillan
Co.

Garden Making, Macmillan Co.

Burkett, Stevens and Hill, *Agriculture for Begin-
ners*, Ginn & Co.

Guyer, M. F., *Question of Method in Nature Study*,
Pedagogical Seminary, Vol. xii, p. 86.

Hodge, C. F., *Nature Study and Life*, Ginn & Co.

Caldwell, O. W., *Elementary School Teacher*, Vol. x,
pp. 86, 131, 157 (*Nature Study in Grades I.-V.*)
270, 316, 493.

Rogers, J. E., *The Tree Book*, Doubleday, Page & Co.

Keeler, H. L., *Our Native Trees*, Scribner.

Comstock, J. H., *Insect Life*, Appleton.

Kellogg, V. L., *American Insects*. H. Holt.

Dickerson, M. C., *The Frog Book*, Doubleday, Page
& Co.

Moths and Butterflies, Ginn & Co.

Emerton, J. H., *The Common Spiders of the United
States*, Ginn & Co.

208 PROJECTS IN THE PRIMARY GRADES

Kelly, Mrs. M. A., Stories of Our Shy Neighbors,
American Book Co.

Maeterlinck, M., The Life of the Bee, Dodd & Co.
The Dog, Dodd & Co.

Burroughs, J., Birds and Bees, Houghton, Mifflin Co.
Emerson, R. W., Nature, Houghton, Mifflin Co.

X. STORY TELLING

Lindsay, Maud, Mother Stories, Milton Bradley Co.
More Mother Stories, Milton Bradley Co.

Bryant, S. C., How to Tell Stories to Children, Hough-
ton, Mifflin Co.

More Stories to Tell, Houghton, Mifflin Co.

Stories to Tell the Littlest Ones, Houghton Mifflin
Co.

Lyman, E., Story Telling, McClurg & Co.

Bailey, C. S., For the Story Teller, Milton Bradley Co.
St. John, Edward Porter, Stories and Story Telling,
The Westminster Press.

Thomsen, G. Th., East o' the Sun and West o' the
Moon, Quiller-Couch.

Hofer, M. R., Stories of the Christ Child, Sumney.

Lagerlöf, S., Christ Legends, Henry Holt & Co.

Menefee, M., Child Stories from the Masters, Rand,
McNally Co.

Alden, R. M., Knights of the Silver Shield, Bobbs,
Merrill & Co.

- Richards, L., The Golden Windows, Little, Brown Co.
Cooke, F., Nature Myths, Flanagan Co.
Holbrook, F., Nature Myths, Houghton, Mifflin Co.
Hawthorne, N., Tanglewood Tales, Houghton, Mifflin Co.
Wonder Book, Houghton, Mifflin Co.
Mabie, H. W., Norse Stories, Dodd, Mead & Co.
Kipling, R., Just So Stories, Doubleday, Page & Co.
Arabian Nights, Longmans, Green & Co.
Andersen, H., Fairy Tales.
Maeterlinck, M., The Blue Bird, Dodd, Mead & Co.
Barrie, J. M., Peter Pan, Scribner's Sons.
Harris, J. C., Uncle Remus, Stokes Bros.

XI. SELECTIONS OF POEMS

- Mother Goose Rhymes.
Stevenson, R. L., Child Garden of Verse, Rand, McNally Co. and others.
Rosetti, C. G., Sing Song, Macmillan & Co.
McDonald, C. S., Baby Classics, Longmans, Green & Co.
Field, Eugene, Child Poems.
Riley, J. W., Child World, Bobbs, Merrill Co.
Wiggin and Smith, The Posy Ring, Doubleday, Page & Co.
Pinafore Palace, Doubleday, Page & Co.
Newell, P., Nonsense Rhymes, Harper Bros.
Hearts of Oak Books, No. 1, D. C. Heath & Co.

210 PROJECTS IN THE PRIMARY GRADES

XII. READING BOOKS FOR LITTLE CHILDREN

Dopp, K., Bobby and Betty at Home, Rand, McNally Co.

Grover, E. V., Sunbonnet Babies, Rand, McNally Co.
Overall Boys, Rand, McNally Co.

Summers, M., Thought Reader, Beattys.

Free and Treadwell, Reading Literature Series, Row,
Peterson Co.

Spaulding and Bryce, Dramatic Reader, Newson Co.
Coe and Christie, Story Hour Readers, American
Book Co.

Horace Mann Readers, Longmans, Green & Co.

Spaulding and Bryce, Aldine Readers, Newson Co.

Riverside Readers, Houghton, Mifflin Co.

Stepping Stones to Literature, Silver, Burdett Co.

Æsop's Fables, Educational Publishing Co.

Progressive Road to Reading, Silver, Burdett Co.

Art Literature Reader, Atkinson, Manger & Grover.

Potter, B., Peter Rabbit, Saalfeld.

Holbrook, F., Hiawatha Primer (grade 2), Houghton,
Mifflin Co.

Smythe, L., Reynard the Fox (grade 2), American
Book Co.

Herbst, Tales and Customs of the Ancient Hebrews
(grade 2), Flanagan Co.

Hill, J., Weavers and Other Workers (grade 2),
Rand, McNally Co.

- Burgess, *Goop Tales* (grade 2), Stokes Co.
- Beckwith, *In Mythland* (grade 2), D. C. Heath Co.
- Hall, J., *Viking Tales* (grade 3), Rand, McNally Co.
- Bigham, M., *Merry Animal Tales* (grade 3), Little, Brown Co.
- Smith, *Eskimo Stories* (grade 2), Rand, McNally Co.
- Wiley and Edick, *Children of the Cliff* (grade 2), Appleton Co.
- Lodrix, *the Little Lake Dweller* (grade 2), Appleton Co.
- McMurry, *Robinson Crusoe* (grade 3), Educational Publishing Co.
- Proudfoot, M. H., *Hiawatha Industrial Reader*, Rand, McNally Co.

XIII. NUMBER

- F. W. Parker Yearbook, June, 1915, pp. 86 ff.—*Children's Experiences in Arithmetic*, F. W. Parker School, Chicago, Ill.
- The Kindergarten and First Grades*, January, February, March, April, 1917, Milton, Bradley Co.
- Harris-Waldo, *First Journeys in Numberland*, Scott, Forsman Co.
- Smith, *Primary Arithmetic*, Ginn & Co.
- Suzzallo, H., *The Teaching of Primary Arithmetic*, Houghton, Mifflin Co.
- Thorndyke, E. L., *Arithmetic*, Rand, McNally Co.

212 PROJECTS IN THE PRIMARY GRADES

XIV. STORIES ABOUT CHILDREN

Grahame, K., *The Golden Age*, Lane.

Gilson, R. R., *In the Morning Glow*, Harper Bros.

Wiggin, K. D., *Rebecca of Sunny Brook Farm*, Houghton, Mifflin Co.

Eliot, G., *The Mill on the Floss*. (Maggie and Tom.)

Martin, G. M., *Emmy Lou*, Doubleday, Page Co.

Harker, L. A., *Romance of the Nursery*, Scribner's Sons.

Kelly, M., *Little Citizens*, Doubleday, Page & Co.

Kipling, R., *Wee, Willie Winkie*.

Baa, Baa, *Black Sheep*.

Dickens, Charles, *Old Curiosity Shop*. (Little Nell.)

David Copperfield.

Nickolas Nickleby.

Oliver Twist.

Dombey and Son.

Martin Chuzzlewit.

Pratt, Lucy, *Children Wanted*, *Atlantic Monthly*, November, 1916.

Montague, *What Mr. Gray said*, *Atlantic Monthly*, April, 1915.

Warner, C. D., *Being a Boy*, Houghton, Mifflin Co.

Riis, J., *Children of the Tenements*, Macmillan Co.

Mark Twain, *Tom Sawyer*, Harper Bros.

Peabody, J. P., *Into the Little Past* (Poetry.) Houghton, Mifflin Co.

XV. MAGAZINES

- F. W. Parker Yearbook, F. W. Parker School, Chicago, Ill.
Teachers' College Record, Columbia University (esp. September, 1915).
Elementary School Teacher, University of Chicago (esp. 1909-1910).
Pedagogical Seminary, Clark University (esp. Vol. xii, p. 86).
School Arts Magazine, H. T. Bailey.

PART TWO**I. SOCIAL EXPERIENCE****1. STORIES AND POEMS FOUND IN :**

- Dopp, K., Bobby and Betty at Home, Primer, Rand, McNally Co.
Grover, E. O., Sunbonnet Babies, Rand, McNally Co.
Overall Boys, Rand, McNally Co.
Free and Treadwell, Reading Literature Series, Row, Peterson Co.
Horace Mann Readers, Longmans, Green & Co.
Story Hour Readers, American Book Co.
Progressive Road to Reading, Silver Burdett Co.
Lindsay, M., Mother Stories, Dust Under the Rug (and others), Milton, Bradley Co.

214 PROJECTS IN THE PRIMARY GRADES

Hall, J., Weavers and Other Workers, Rand, McNally Co.

Dopp, K., The Tree Dwellers, Rand, McNally Co.

The Early Cave Man, Rand, McNally Co.

The Later Cave Man, Rand, McNally Co.

The Sea People, Rand, McNally Co.

Wiley and Edick, Children of the Cliff, Appleton Co.

Lodrix, the Lake Dweller, Appleton Co.

2. POEMS.

From Young and Field, Literary Reader No. III., Ginn & Co.

Rosetti, C. G., Sleep, Little Baby, Sleep.

A Pocket Handkerchief to Hem.

Lambkins.

Emerson, R. W., Father in Heaven, We Thank Thee.

Stevenson, R. L., Farewell to the Farm.

Happy Thoughts.

Whole Duty of Children.

The Hay Loft.

Marching Song.

The Land of Counterpane.

The Land of the Story Books.

The Cow.

Singing.

Bed in Summer.

Time to Rise.

- Sangster, M. E., Our Little Echo.
Craig, M. A., Which Loved Best?
Bunner, H. C., One, Two, Three.
Kingsley, Charles, The Lost Doll.
Field, Eugene, The Rockabye Lady.
 So, So, Rockabye So.
 Wynken, Blynken and Nod.
Lear, Edward, Calico Pie.
 The Owl and the Pussy Cat.
Child, L. M., Thanksgiving.
Longfellow, H. W., The Village Blacksmith.

II. NATURE EXPERIENCE

A. Birds

1. GENERAL.

- Chapman, F. M., Bird Life, Appleton Co.
Blanchan, N., Bird Neighbors, Doubleday, Page & Co.
 Birds Every Child Should Know, Doubleday,
 Page & Co.
Miller, O., Th., First Book of Birds, Houghton, Mifflin
 Co.
 Second Book of Birds, Houghton, Mifflin Co.
Burroughs, J., Wake Robin, Houghton, Mifflin Co.
 Birds and Bees, Houghton, Mifflin Co.
National Geographic Magazine, June, 1913; April,
 1911; March, 1914; June, 1914.

216 PROJECTS IN THE PRIMARY GRADES

2. STORIES.

Lagerlöf, Christ Legends, Robin Redbreast.

Holbrook, Nature Myths, Norse Story of the Woodpecker.

Cooke, Nature Myths, The Robin and the Northland.

Mme. Maeterlinck, The Blue Bird for Children.

Æsop Fable, The Lark and the Mole.

Bryant, S. C., Stories to Tell to Children, Chicken Little.

Whittier, J. G. (Adapted), Indian Story of the Robin.

Longfellow, Hiawatha, Indian Story of the Woodpecker.

Hiawatha's Childhood.

The Ravens.

Tales of a Wayside Inn. The Birds of Killingsworth.

(Tell these stories, then read the poem to the children.)

Anderson, H. C., Sunshine Stories.

3. POEMS.

Stevenson, R. L., Of Speckled Eggs.

A Birdie with a Yellow Bill.

Field, E., The Blue Pigeon.

The Partridge.

Tennyson, What Does Little Birdie say?

The Owl.

Aldine Reader, Little Birdie in the Tree.

- Larcom, L., The Brown Thrush.
Thaxter, C., The Sandpiper.
 Wild Geese.
 Christmas in Norway.
Bryant, W. C., Robert o' Lincoln.
 Child, Who Stole the Bird's Nest?
Lear, E., The Owl and the Pussy Cat Went to Sea.
Emerson, R. W., The Chickadee.
Tabb, J. B., The Blue Bird.
Longfellow, Ewa-yea, My Little Owlet (Hiawatha).
Rosetti, C. G., The Swallow.

B. Plant Life

1. STORIES.

- Bryant, S. C., How to Tell Stories to Children—
 Why the Evergreen Trees Keep Their Leaves.
 Why the Morning Glory Climbs.
 How We Came to Have Pink Roses.
 The Golden Cobwebs.
 Stories for the Littlest Ones—How the Maple
 Sugar was Found.
Andersen, H. C., The Fir Tree.
 Sunshine Stories.
 The Pea Blossom.
Cooke, F. J., Nature Myths—
 The Story of Clytie.
 Golden Rod and Aster.

218 PROJECTS IN THE PRIMARY GRADES

King Solomon and the Bee.

Beaver and the Fire.

The Story of the Poplar Tree.

Greek Myth (adapted.) Persephone and Demeter.

Apollo and Daphne.

Philemon and Baucis.

Hercules and Antaeus.

Hawthorne, N. (Adapted), Tanglewood Tales.

Lowell, James R., Greek Myth, The Story of Rhoeus.

Longfellow, H. W., Hiawatha and Mondamin.

Hiawatha and the Ravens.

Hiawatha and His Canoe.

Arbutus Story, Hiawatha, Chapter: The White
Man's Foot.

Æsop Fables, Vine and Oak.

Pumpkin and Oak.

The Discontented Pine Tree.

The Norse Story of the Dandelion. (Freya's Tears.)

Wake Robin.

For more extended list, see general bibliography.
Also: Harvard Classics, Vol. 17—Folk and Fable.

2. POEMS.

Bjornsen, B., The Tree.

Coolidge, S., How the Leaves Came Down.

Tennyson, A., Flower in the Crannied Wall.

Bolles, M. L., The Petrified Fern.

Whittier, J. G., The World.

The Huskers.

Lowell, J. R., Al Fresco (in part).

The Nest (in part).

. Rhoecus.

Browning, R., The Year's at the Spring.

Browning, E. B., A Musical Instrument.

Rands, Great, Wide, Wonderful, Beautiful World.

Dunbar, The Birth of Morn.

Emerson, R. W., May Day (in part).

Riley, J. W., The Brook.

Sherman, F. D., The Daisies.

For more extended list, see general bibliography.

Also: Teachers' College Record for September, 1906.

C. Weather as It Affects Life

1. STORIES.

Æsop Fable, Sun and Wind.

Beecher, H. W., The Anxious Leaf.

Longfellow, H. W., Michabo and the Peace Pipe. (Indian Summer.)

Andersen, H. C., Sunshine Stories.

The Snow Queen.

Sleeping Beauty.

Cooke, F. J., Fire Stories, The Robin and the Northland, Nature Myths.

The Beaver and the Fire, Nature Myths.

220 PROJECTS IN THE PRIMARY GRADES

Howliston, What Cracked the China Pitcher, Cat Tales
and Other Tales.

Longfellow, H. W., Kabbibonoka and Shingebis the
Diver (adapted), Hiawatha.

Æsop Fable, The Donkey and the Salt.

Greek Myths:—Ulysses and Eolus.

Apollo and Aurora.

Apollo and Daphne.

Apollo and Clytie.

Phaëton.

Hercules and Antaeus.

Persephone and Demeter.

Hermes and Apollo's Cows.

Mabie, H. W., Norse Myths, The Story of Balder.

Pratt, Mara, Norse Legends.

Wade, Our Little Cousin Series, Page & Co.

Mary Smith, The Eskimo.

Wiltse, Legend of the Dipper, Kindergarten Stories.

2. POEMS.

Coolidge, S., I'll Tell You How the Leaves Came Down.

Stanton, E., The Little Man in the Fire.

Shelley, The Cloud, (4).

Stedman, What the Winds Bring.

Stevenson, R. L., Autumn Fires.

The Rain is Raining All Around.

The Wind.

Moon and Stars.

The Shadow.

Bed in Summer.

Windy Nights.

Ingelow, J., The Moon.

Riley, J. W., When the Frost Is on the Pumpkin.

Field, E., Night Wind.

Lovejoy, M. I., Oh, There Is a Fairy Artist.

Twinkle, Twinkle, Little Star.

McDonald, G., Wind and Moon.

Woods, The Rainbow.

Aldrich, T. B., Marjorie's Almanac.

Thaxter, C., Spring.

Jackson, H. H., September (in part).

October (in part).

Lovejoy, M. I., October Gave a Party.

Whenever a Snowflake Leaves the Sky.

Rosetti, C. G., Boats Sail on the River.

The Wind.

The Rainbow.

The Sea Horses.

